

# MICROLOG

|             |                                           |                            |  |
|-------------|-------------------------------------------|----------------------------|--|
| COMPANY     | HARTMAN OIL CO., INC.                     |                            |  |
| WELL        | ROSE 4-1                                  |                            |  |
| FIELD/BLOCK | AMERICAN BEAUTY                           |                            |  |
| COUNTY      | WICHITA                                   |                            |  |
| STATE       | KANSAS                                    |                            |  |
| API No.     | 15-203-20281-00-00                        | Other Services:            |  |
| Location    | (SHL) 330' FNL & 1310' FWL<br>E2-NE-NW-NW | ACRT<br>DSNT, SDLT<br>BSAT |  |
| Sect. 1     | Twp. 16S                                  | Rge. 35W                   |  |

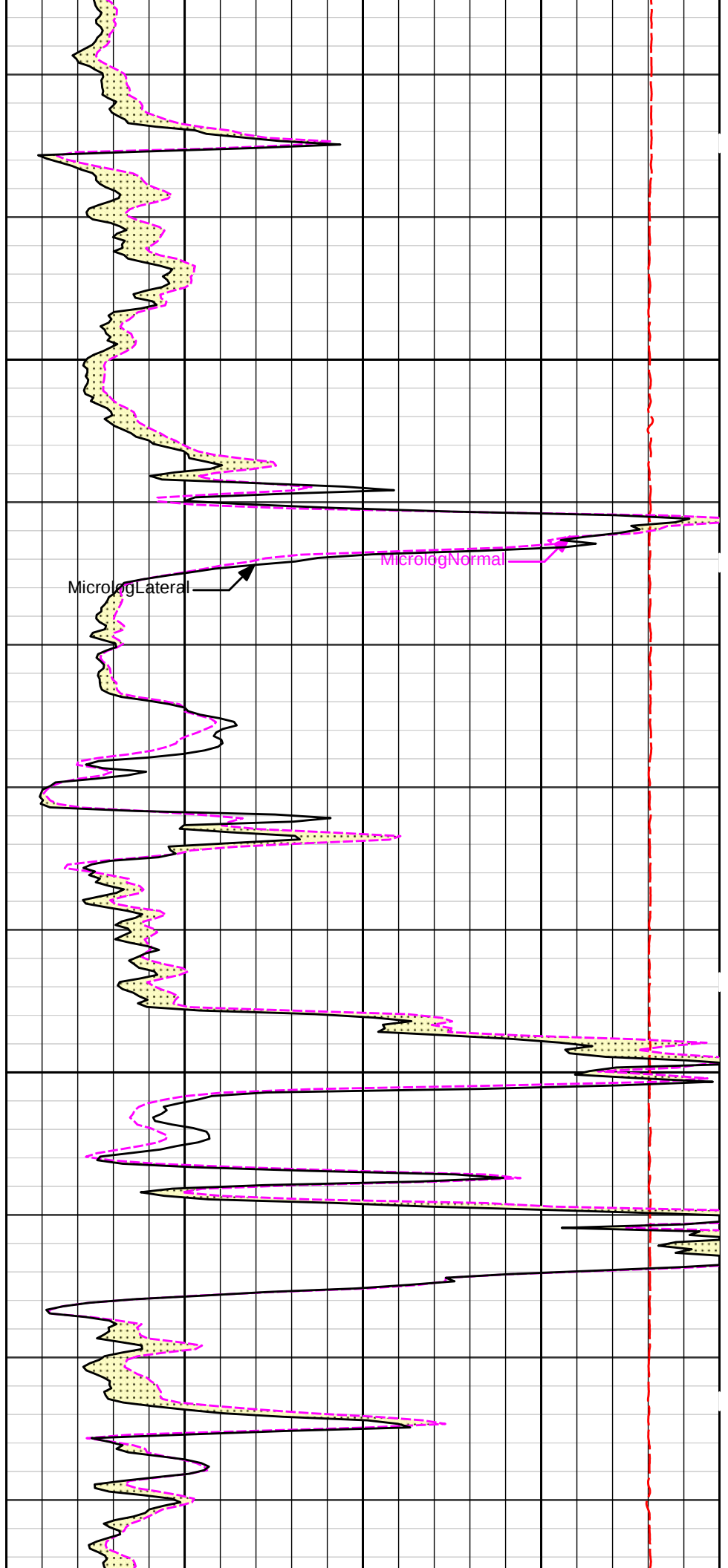
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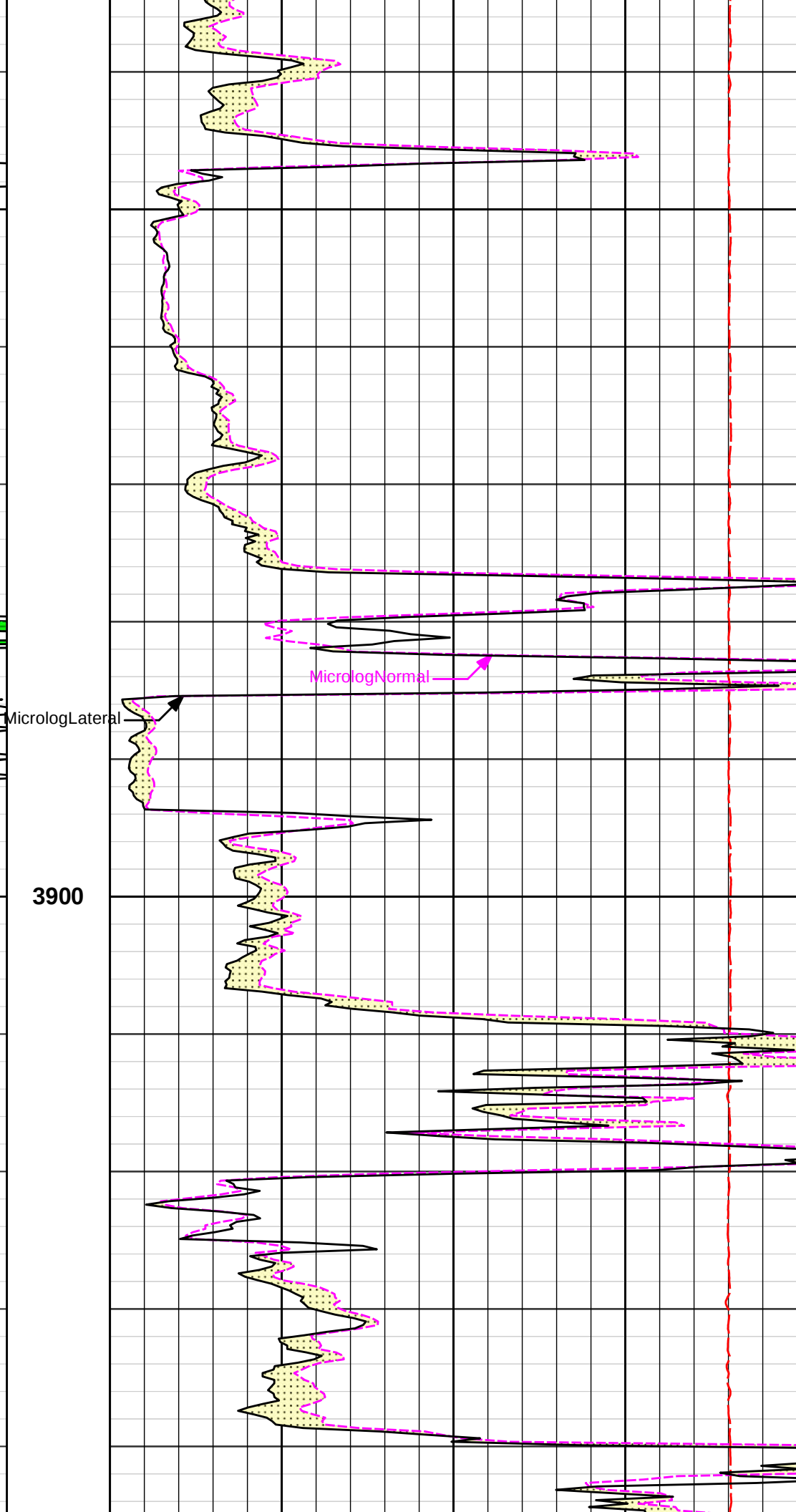
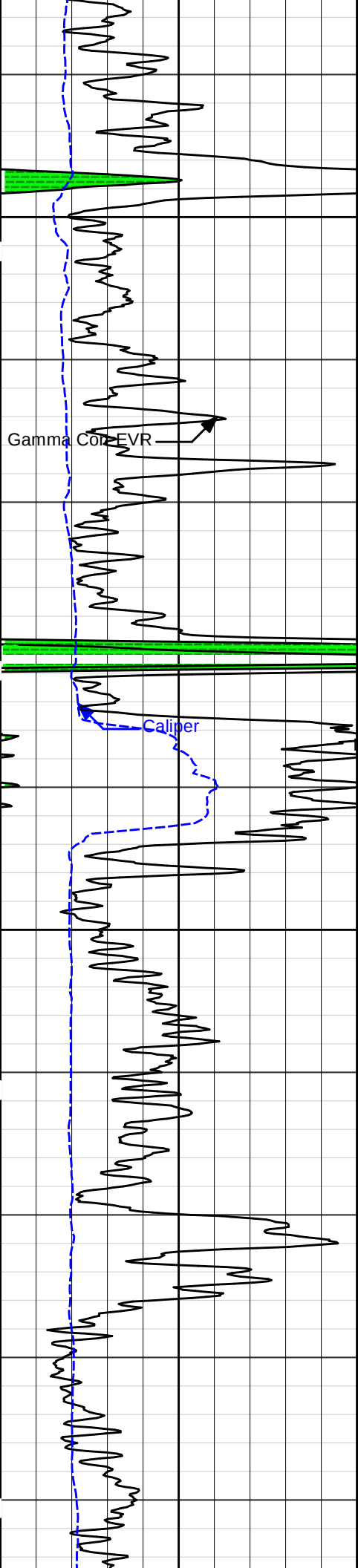
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|-----------------------------------------|------------|---|--------------|---|--|------------------------------------|-----------------|---------------|-------------|-----------------|-------|-----------------------------------------|--|--|--|--|--|
| Service Ticket No.: 901589273           |            |   |              |   |  | API Serial No.: 15-203-20281-00-00 |                 |               |             |                 |       | PGM Version: WL INSITE R4.2.0 (Build 2) |  |  |  |  |  |
| CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE |            |   |              |   |  | RESISTIVITY SCALE CHANGES          |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Date                                    | Sample No. |   |              |   |  | Type Log                           | Depth           | Scale Up Hole |             | Scale Down Hole |       |                                         |  |  |  |  |  |
| Depth-Driller                           |            |   |              |   |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Type Fluid in Hole                      |            |   |              |   |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Density                                 | Viscosity  |   |              |   |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Ph                                      | Fluid Loss |   |              |   |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Source of Sample                        |            |   |              |   |  | RESISTIVITY EQUIPMENT DATA         |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Rm @ Meas. Temp                         |            | @ |              | @ |  | Run No.                            | Tool Type & No. | Pad Type      | Tool Pos.   |                 | Other |                                         |  |  |  |  |  |
| Rmf @ Meas. Temp.                       |            | @ |              | @ |  | ONE                                | MICROLOG        | RUBBER        | ADJ         |                 | N/A   |                                         |  |  |  |  |  |
| Rmc @ Meas. Temp.                       |            | @ |              | @ |  |                                    | 11014296        |               |             |                 |       |                                         |  |  |  |  |  |
| Source Rmf                              | Rmc        |   |              |   |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Rm @ BHT                                |            | @ |              | @ |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Rmf @ BHT                               |            | @ |              | @ |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| Rmc @ BHT                               |            | @ |              | @ |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| EQUIPMENT DATA                          |            |   |              |   |  |                                    |                 |               |             |                 |       |                                         |  |  |  |  |  |
| GAMMA                                   |            |   | ACOUSTIC     |   |  | DENSITY                            |                 |               | NEUTRON     |                 |       |                                         |  |  |  |  |  |
| Run No.                                 | ONE        |   | Run No.      |   |  | Run No.                            |                 |               | Run No.     |                 |       |                                         |  |  |  |  |  |
| Serial No.                              | 11048627   |   | Serial No.   |   |  | Serial No.                         |                 |               | Serial No.  |                 |       |                                         |  |  |  |  |  |
| Model No.                               | GTET       |   | Model No.    |   |  | Model No.                          |                 |               | Model No.   |                 |       |                                         |  |  |  |  |  |
| Diameter                                | 3.625"     |   | No. of Cent. |   |  | Diameter                           |                 |               | Diameter    |                 |       |                                         |  |  |  |  |  |
| Detector Model No.                      | T-102      |   | Spacing      |   |  | Log Type                           |                 |               | Log Type    |                 |       |                                         |  |  |  |  |  |
| Type                                    | SCINT      |   |              |   |  | Source Type                        |                 |               | Source Type |                 |       |                                         |  |  |  |  |  |
| Length                                  | 8'         |   | LSA [Y/N]    |   |  | Serial No.                         |                 |               | Serial No.  |                 |       |                                         |  |  |  |  |  |
| Distance to Source                      | 10'        |   | FWDA [Y/N ]  |   |  | Strength                           |                 |               | Strength    |                 |       |                                         |  |  |  |  |  |

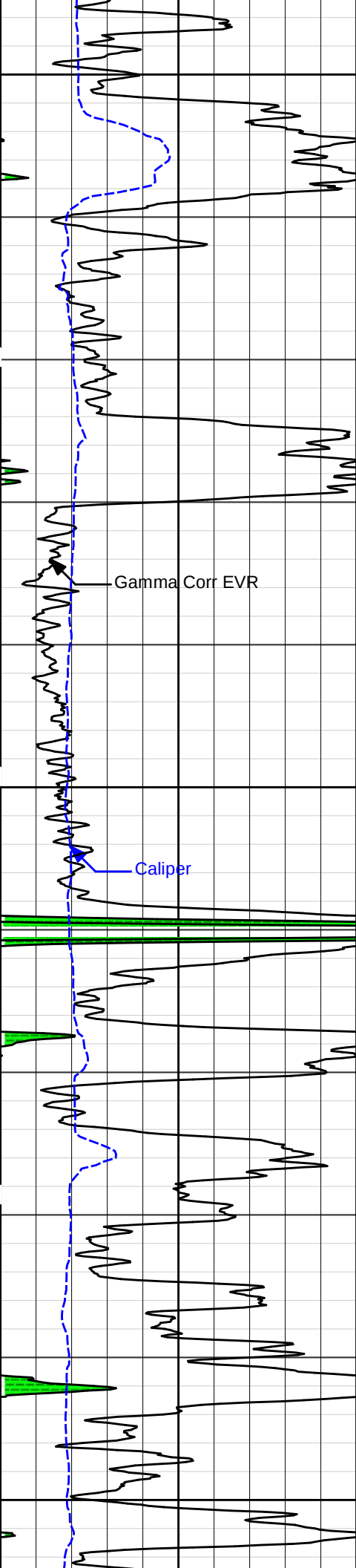
| GENERAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |      |        | GAMMA |     | ACOUSTIC |   |        | DENSITY |   |        | NEUTRON |   |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|--------|-------|-----|----------|---|--------|---------|---|--------|---------|---|--------|
| Run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Depth |      | Speed  | Scale |     | Scale    |   | Matrix | Scale   |   | Matrix | Scale   |   | Matrix |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | From  | To   | ft/min | L     | R   | L        | R |        | L       | R |        | L       | R |        |
| ONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4768  | 3700 | REC    | 0     | 150 |          |   |        |         |   |        |         |   |        |
| ONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2450  | 2350 | REC    | 0     | 150 |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| DIRECTIONAL INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| Maximum Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |      |        |       |     | @        |   |        | KOP     |   |        | @       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| CHLORIDES REPORTED AT 7,400 PPM                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| LCM REPORTED AT 4 LB/BBL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| TODAY'S CREW: F. VILLA & M. GRAHAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123                                                                                                                                                                                                                                                                                                                                                                                                                            |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF. |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |      |        |       |     |          |   |        |         |   |        |         |   |        |
| HALLIBURTON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |      |        |       |     |          |   |        |         |   |        |         |   |        |



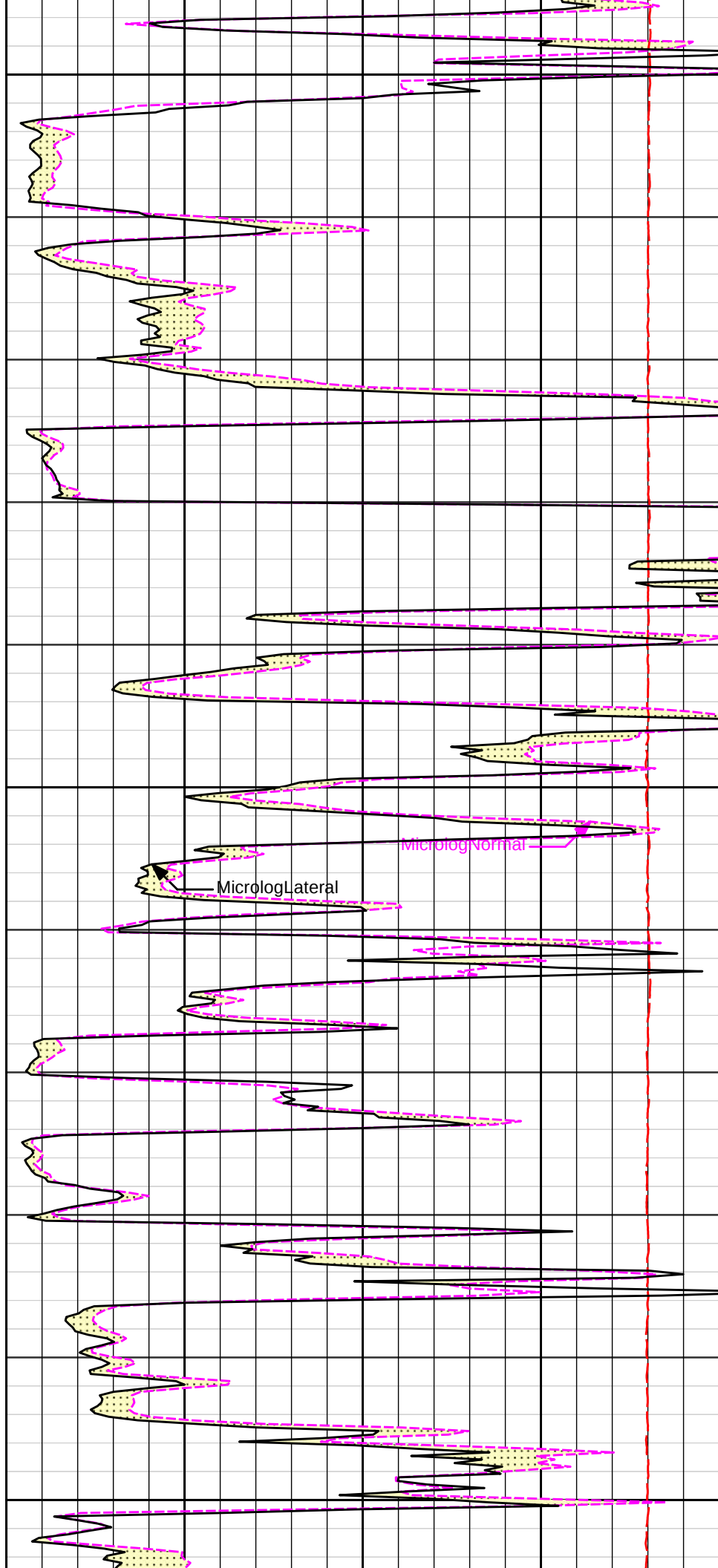
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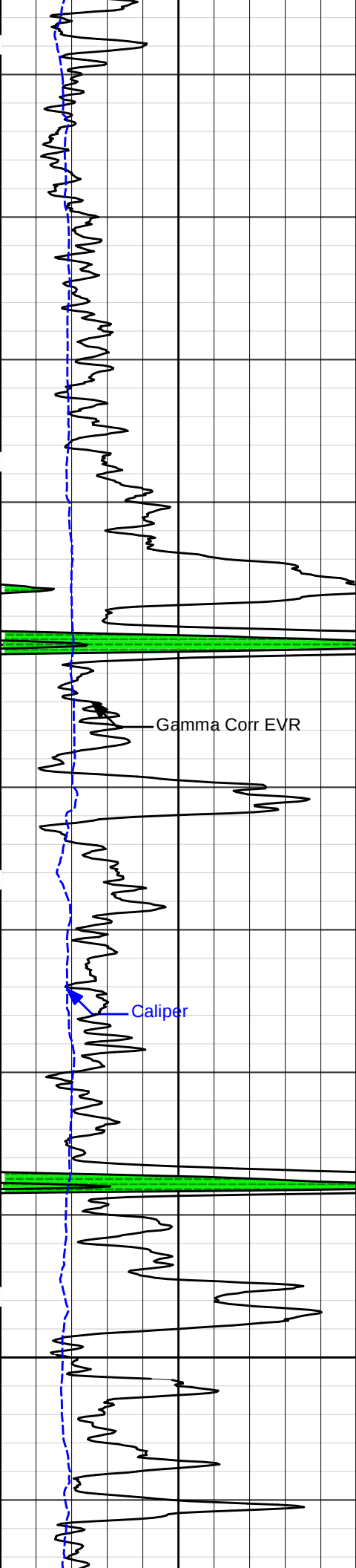




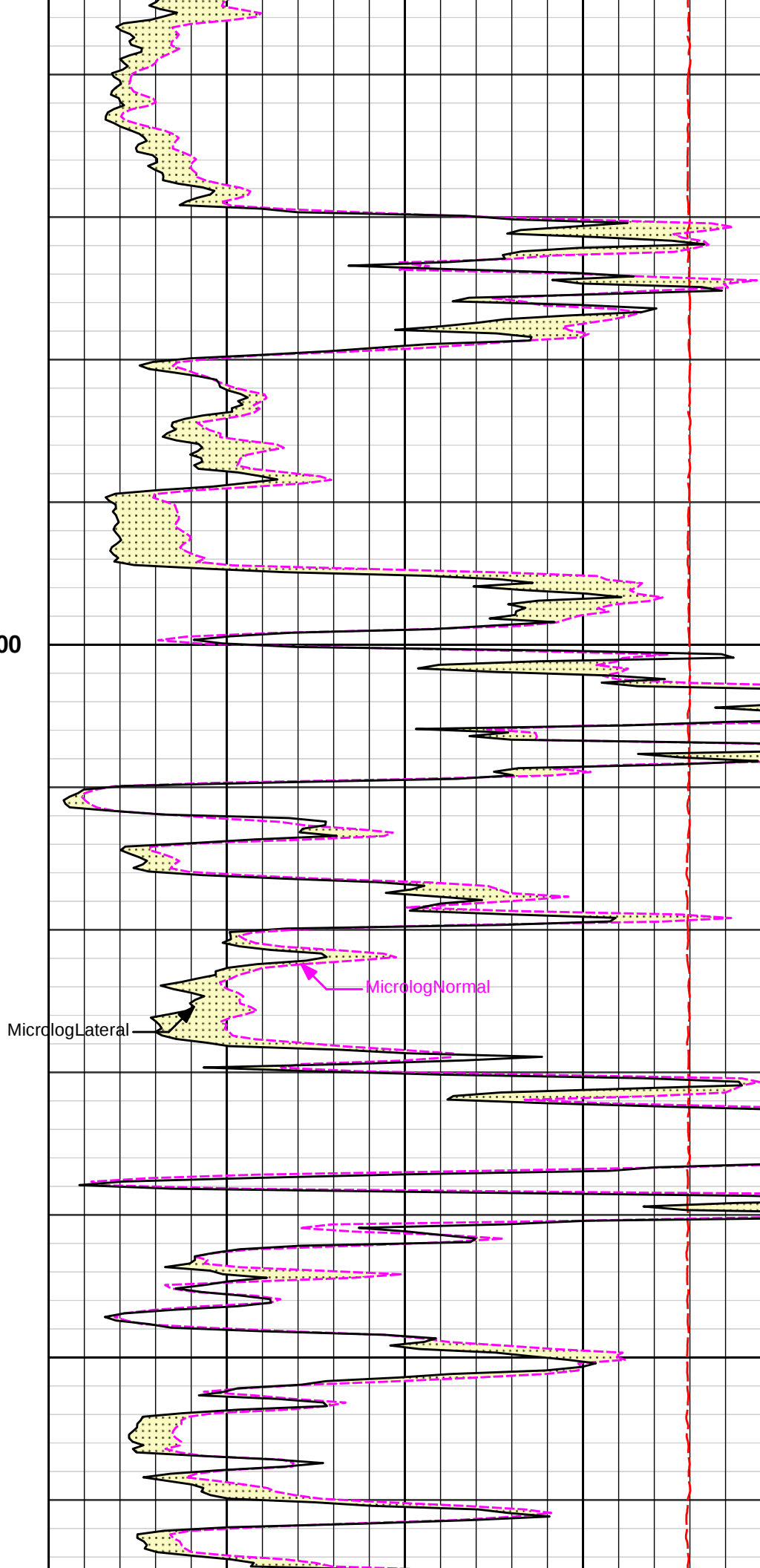


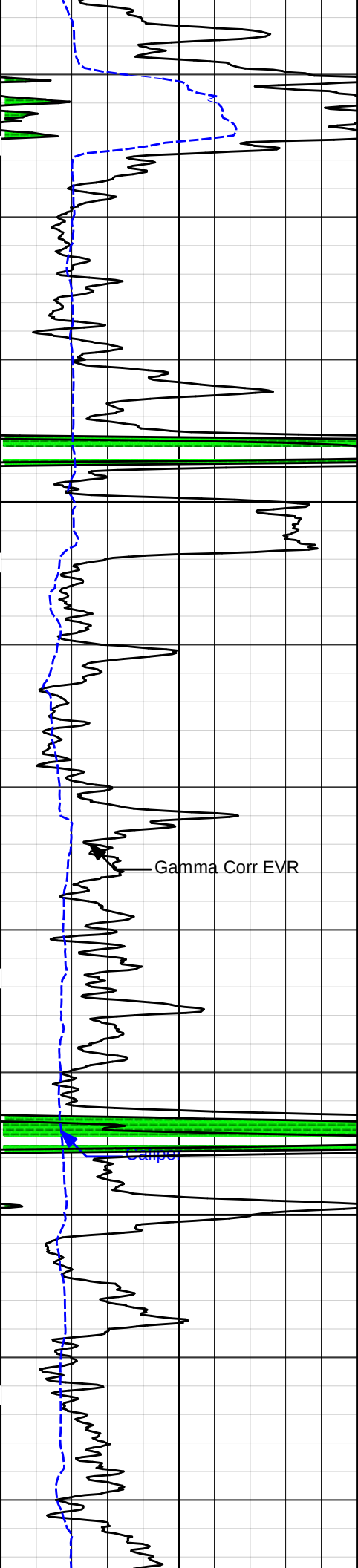
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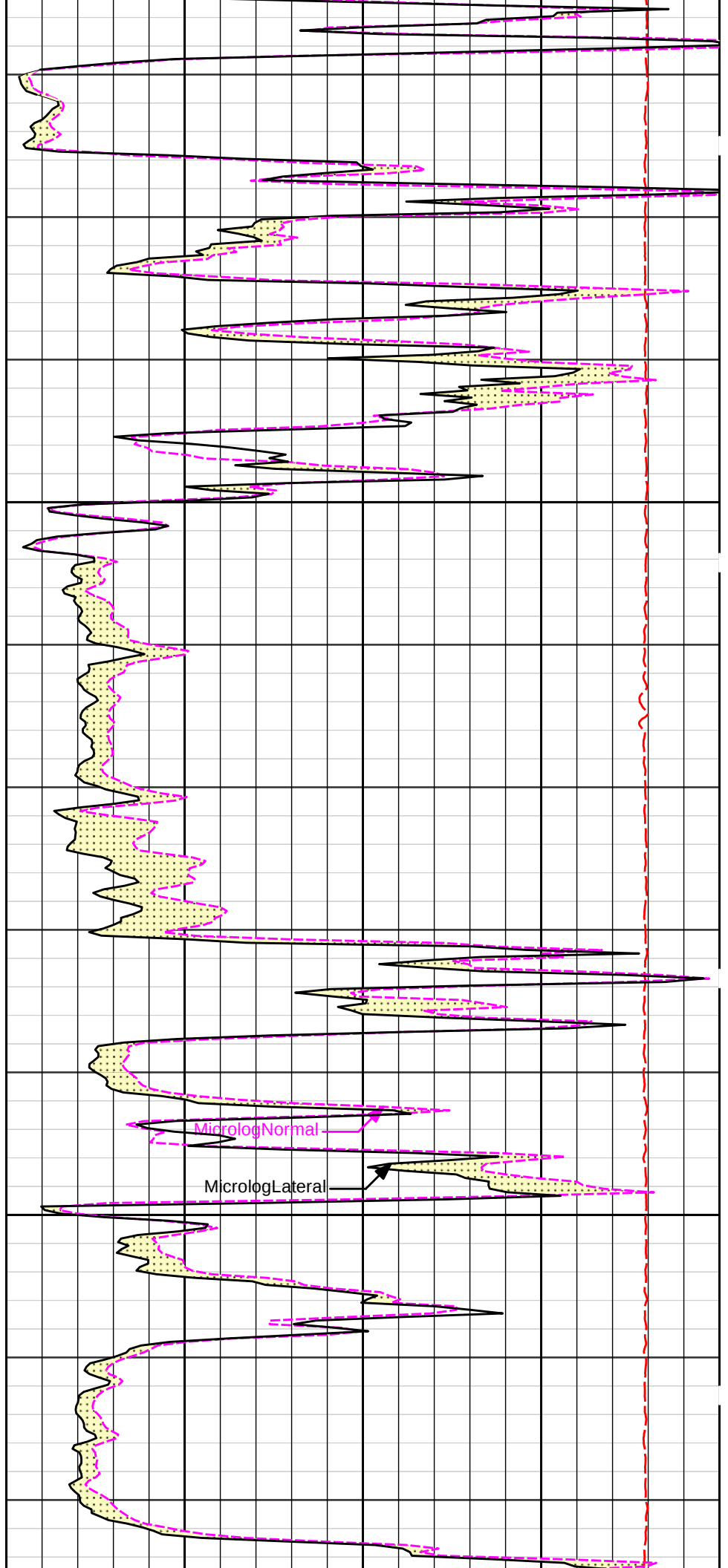


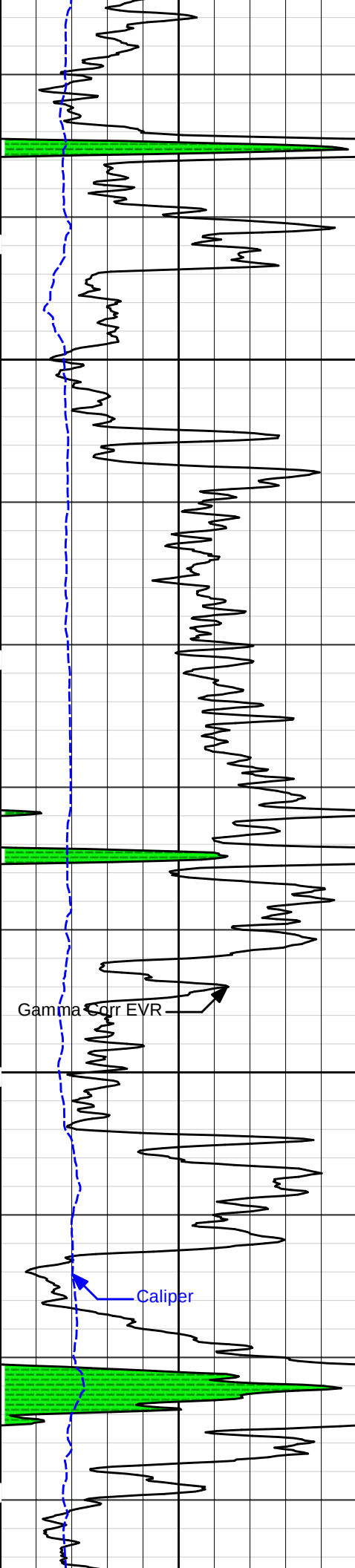
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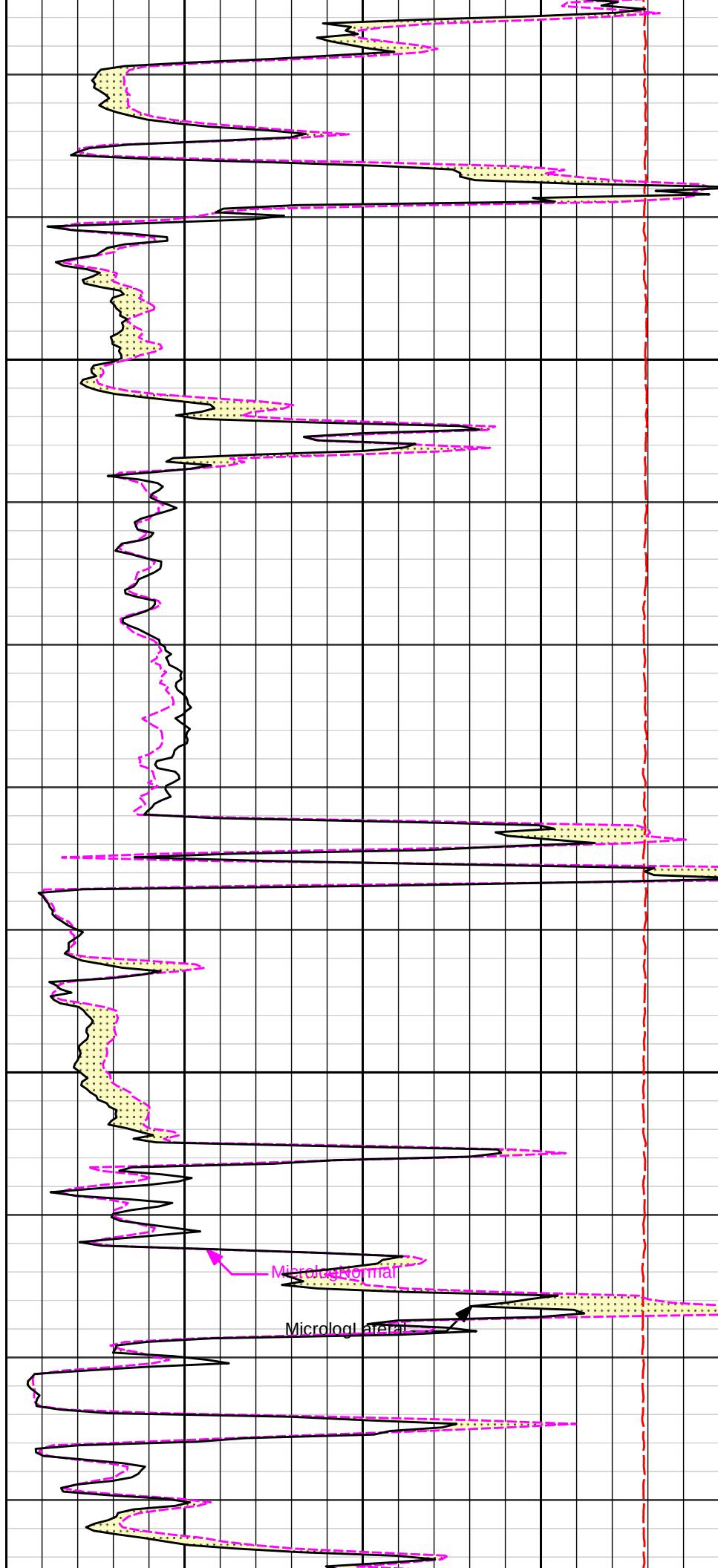


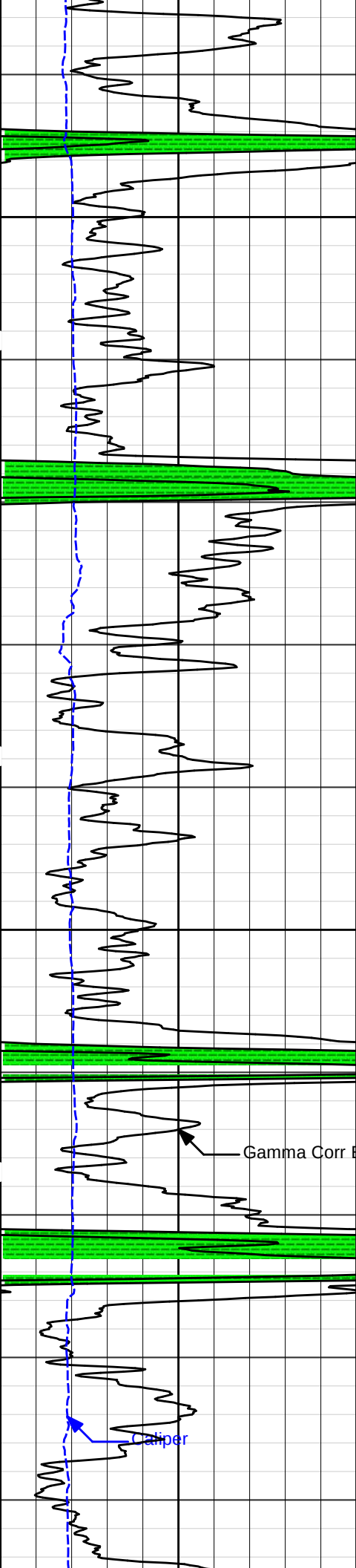
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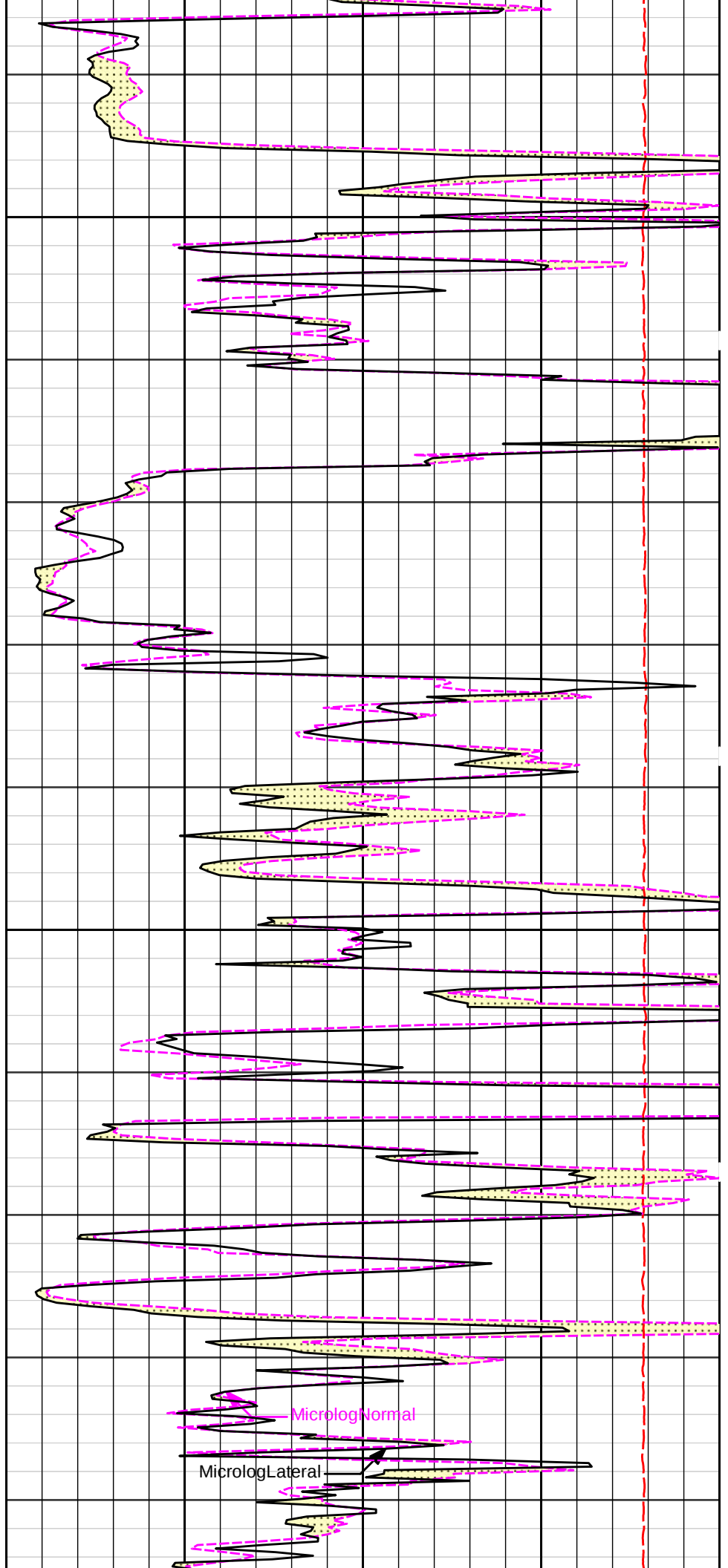


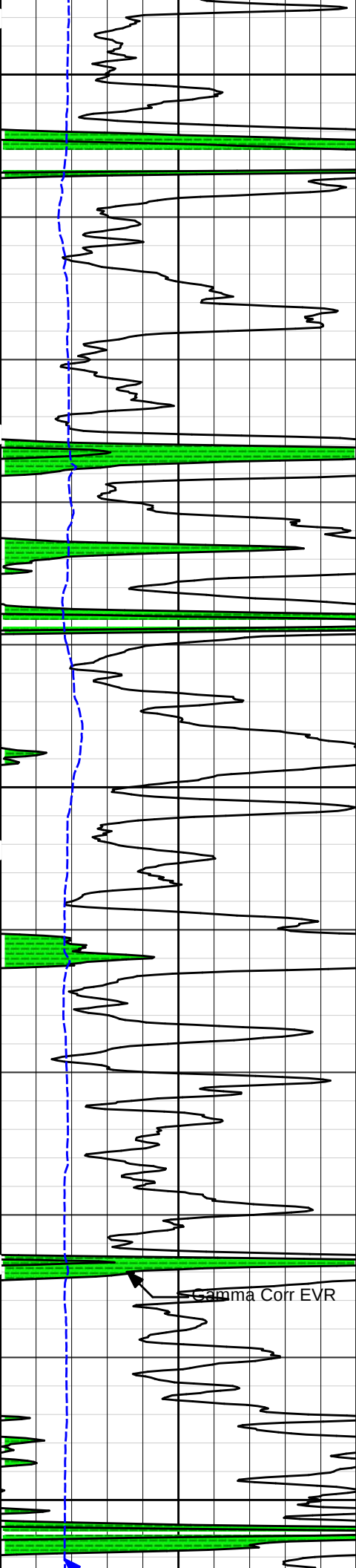
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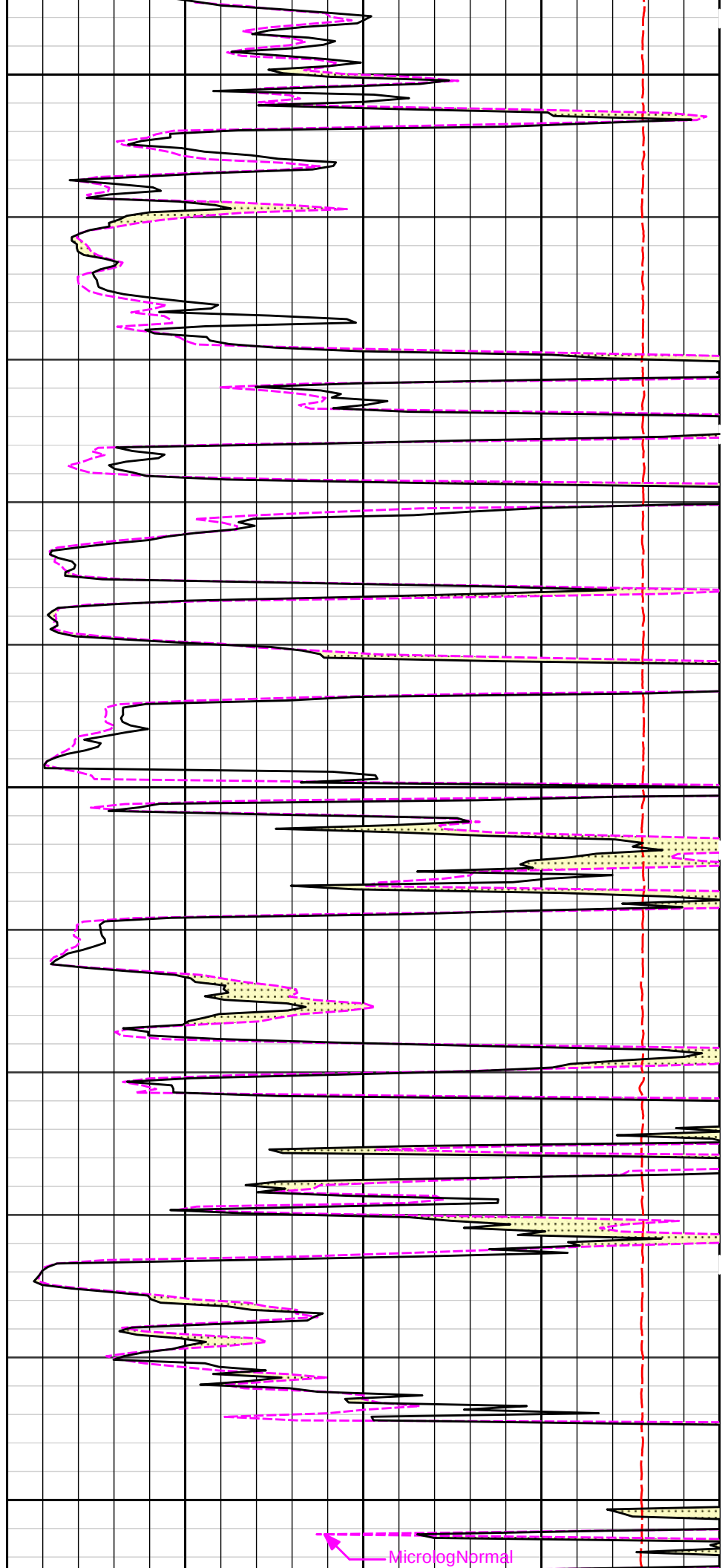
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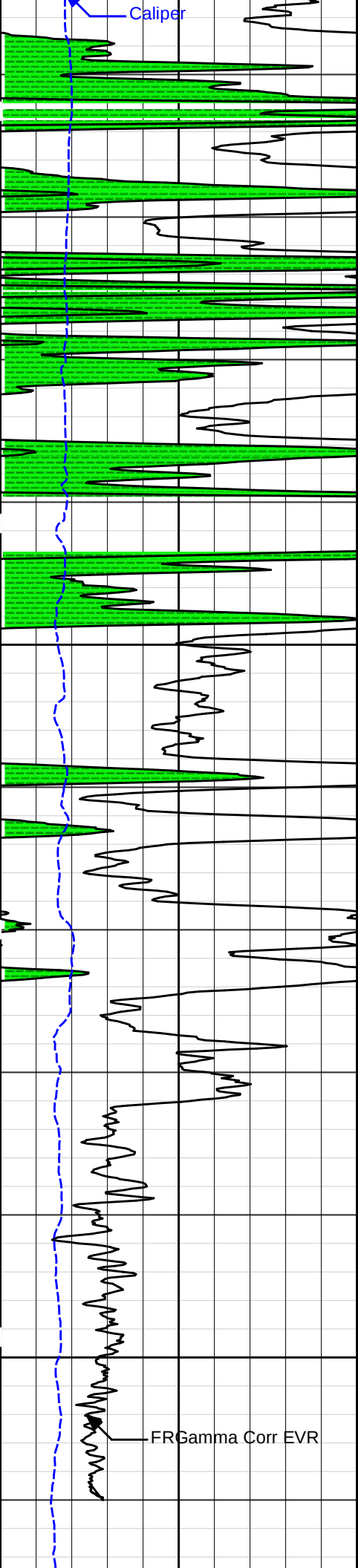




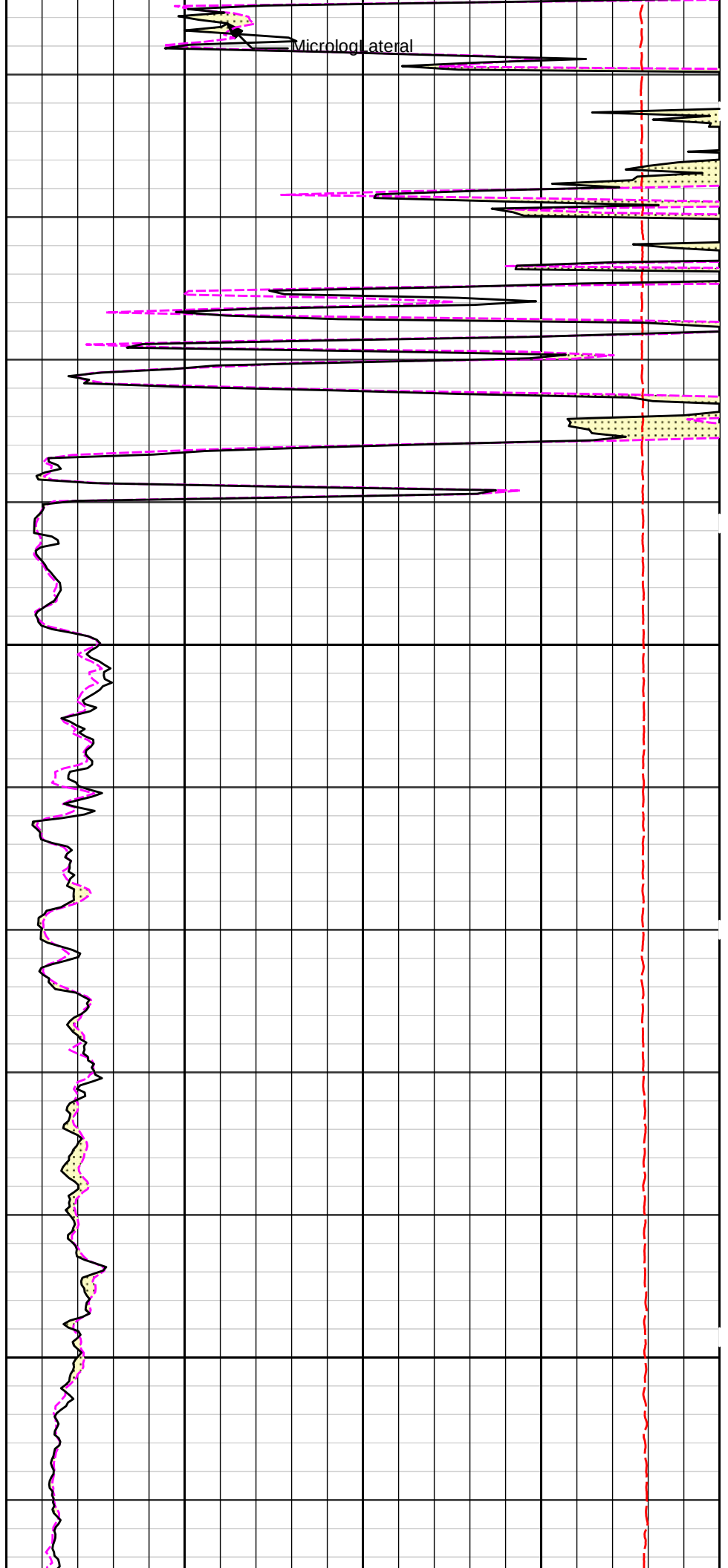
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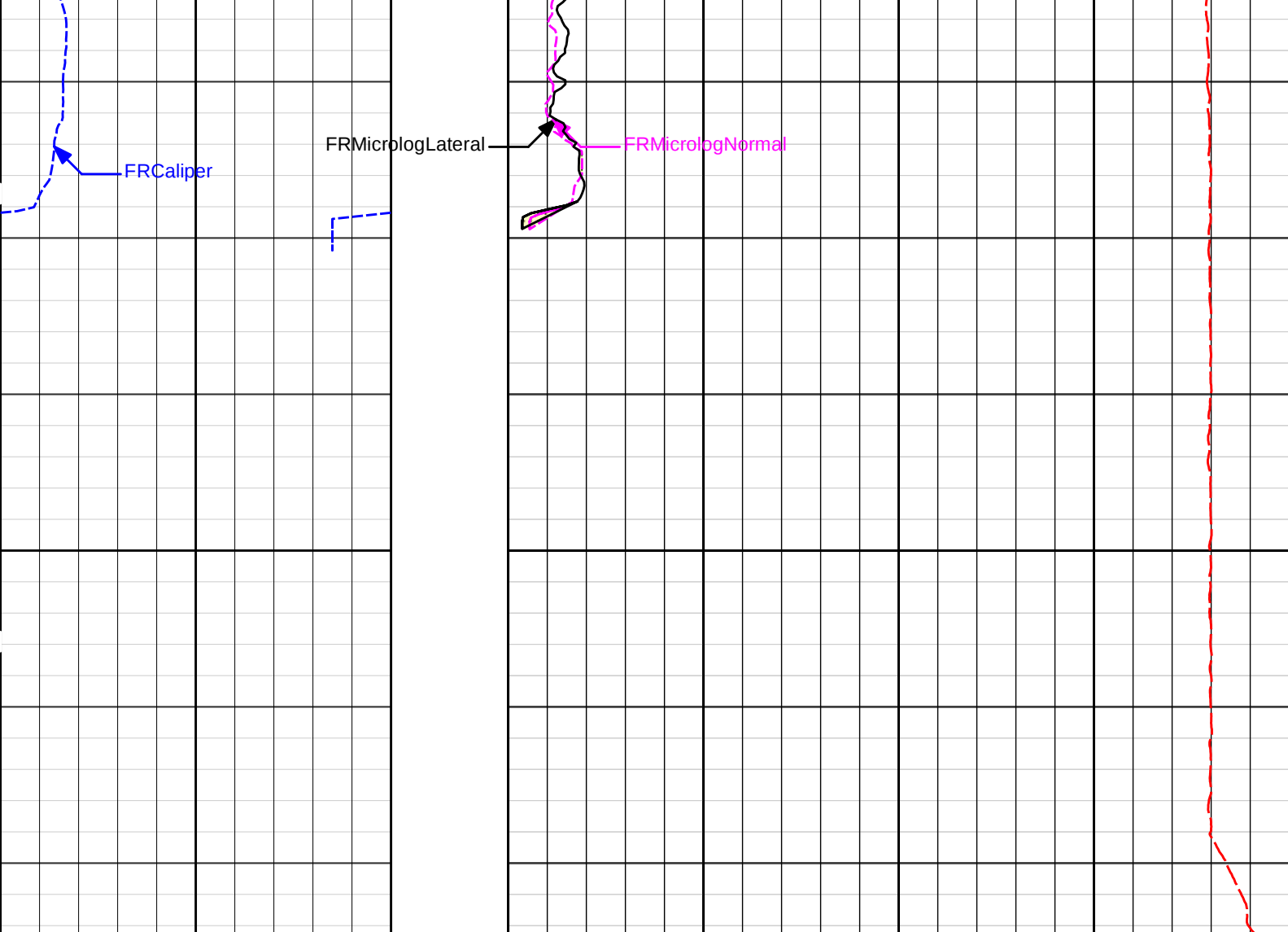
4600





4700





|                             |  |                                  |                                   |  |
|-----------------------------|--|----------------------------------|-----------------------------------|--|
| 6 Caliper 16<br>inches      |  | MD<br>1 : 120<br>ft              | 15K Tension 0<br>pounds           |  |
| 0 Gamma Corr EVR 150<br>api |  |                                  | 0 MicrologLateral 20<br>ohm-metre |  |
| SHALE                       |  | 0 MicrologNormal 20<br>ohm-metre |                                   |  |
|                             |  | PERMEABLE                        |                                   |  |
|                             |  |                                  |                                   |  |

HALLIBURTON

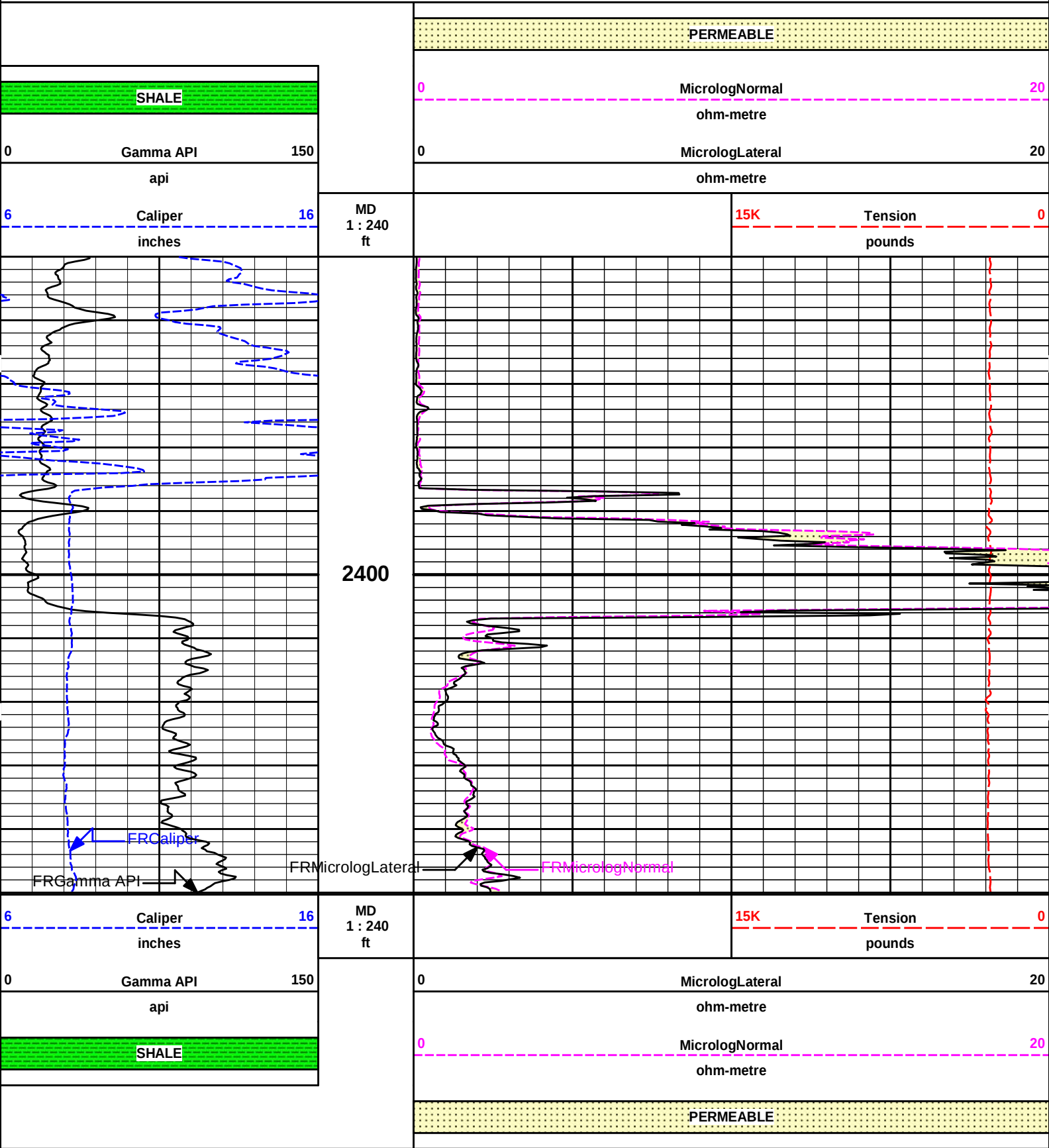
Plot Time: 18-Aug-14 10:09:35  
Plot Range: 3700 ft to 4774.5 ft  
Data: ROSE\_4-1\Well Based\DETAIL\_BOTTOM\  
Plot File: \\LOCAL-ROSE\_4-1\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\MICRO\Microlog\_10\_EVR

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 18-Aug-14 10:09:35  
Plot Range: 2350 ft to 2450 ft  
Data: ROSE\_4-1\Well Based\DETAIL\_TOP\  
Plot File: \\LOCAL-ROSE\_4-1\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\MICRO\Microlog\_IQ\_5\_main\_lib

5 INCH MAIN LOG



# 5 INCH MAIN LOG

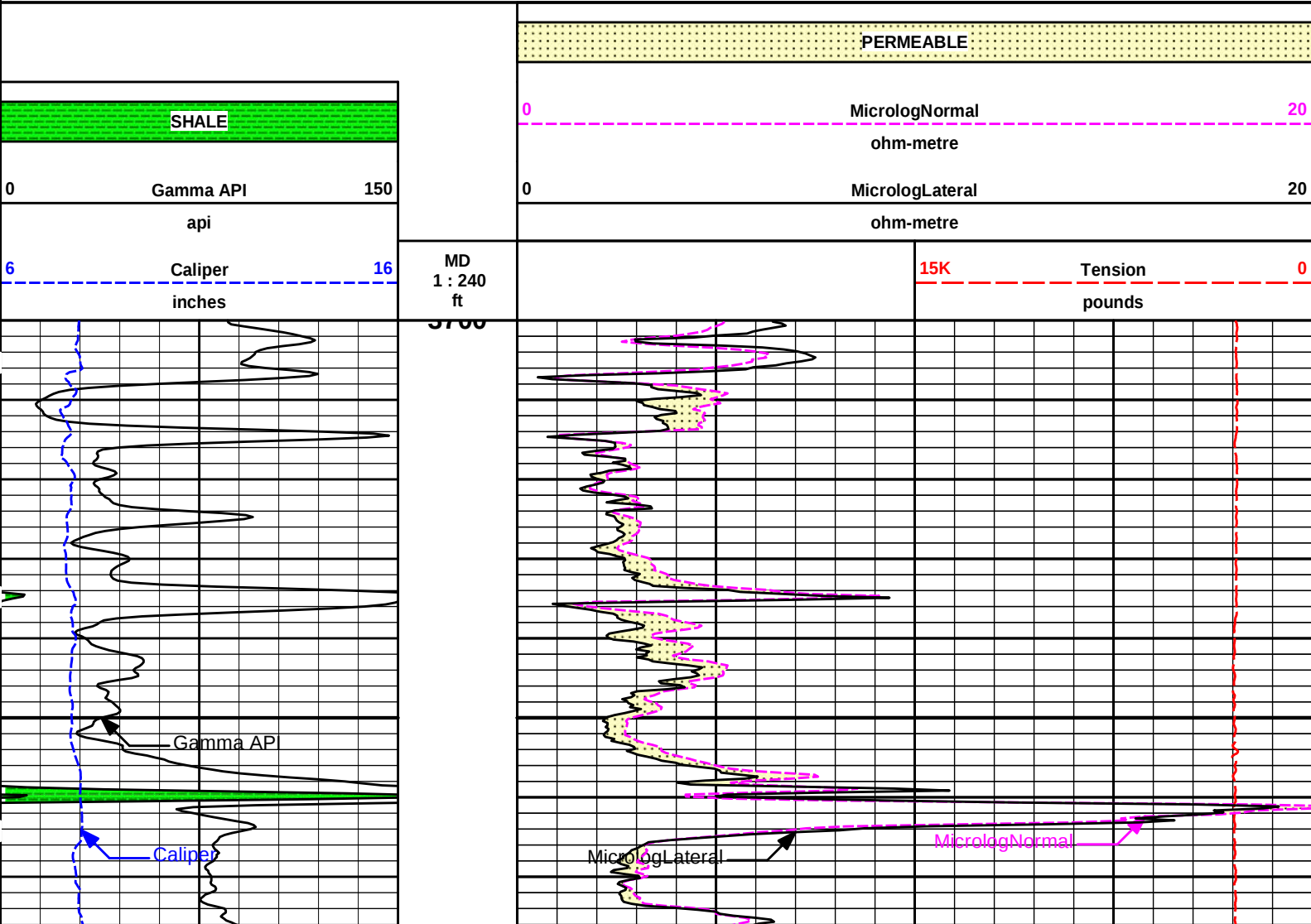
MEASURED DEPTH  
MAIN LOG 5" PER 100'

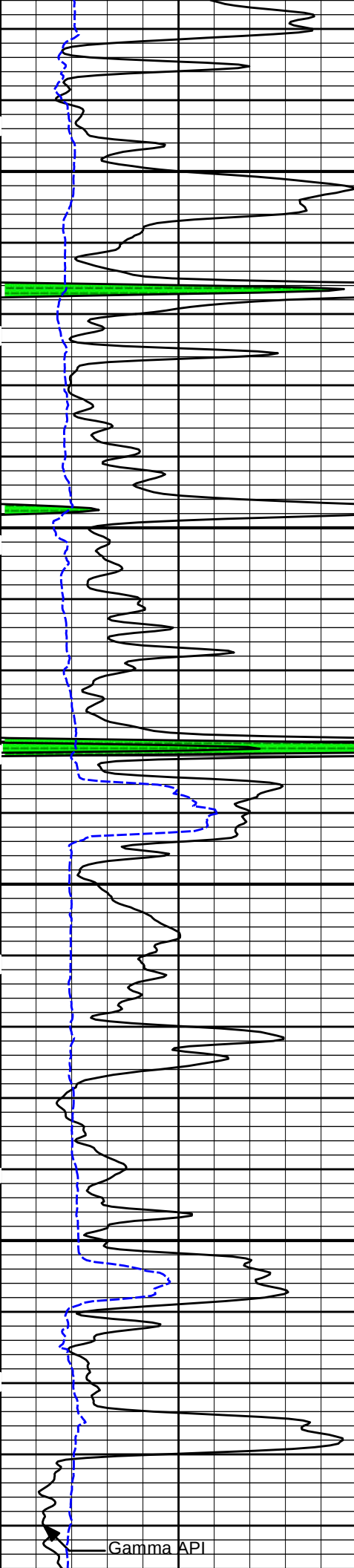
**HALLIBURTON**

Plot Time: 18-Aug-14 10:09:37  
Plot Range: 3700 ft to 4774.5 ft  
Data: ROSE\_4-1\Well Based\DETAIL\_BOTTOM\  
Plot File: \\LOCAL-ROSE\_4-1\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\MICRO\Microlog\_IQ\_5\_main.lib

# 5 INCH MAIN LOG

MEASURED DEPTH  
MAIN LOG 5" PER 100'

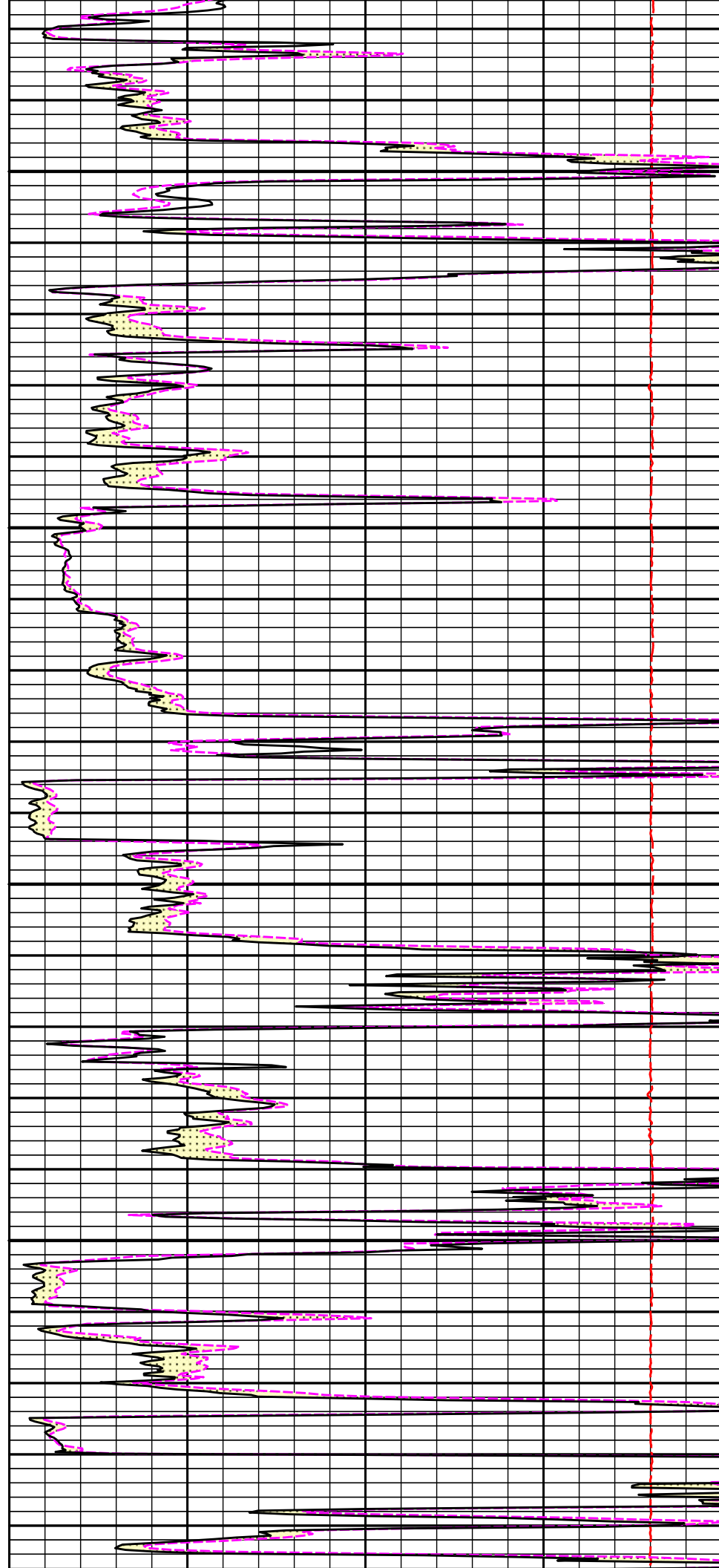


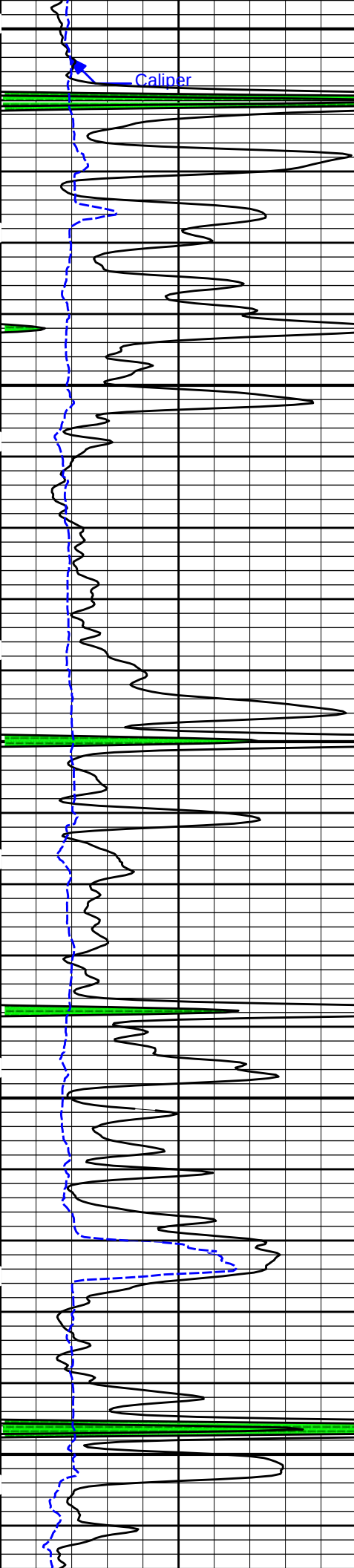


3800

3900

Gamma API

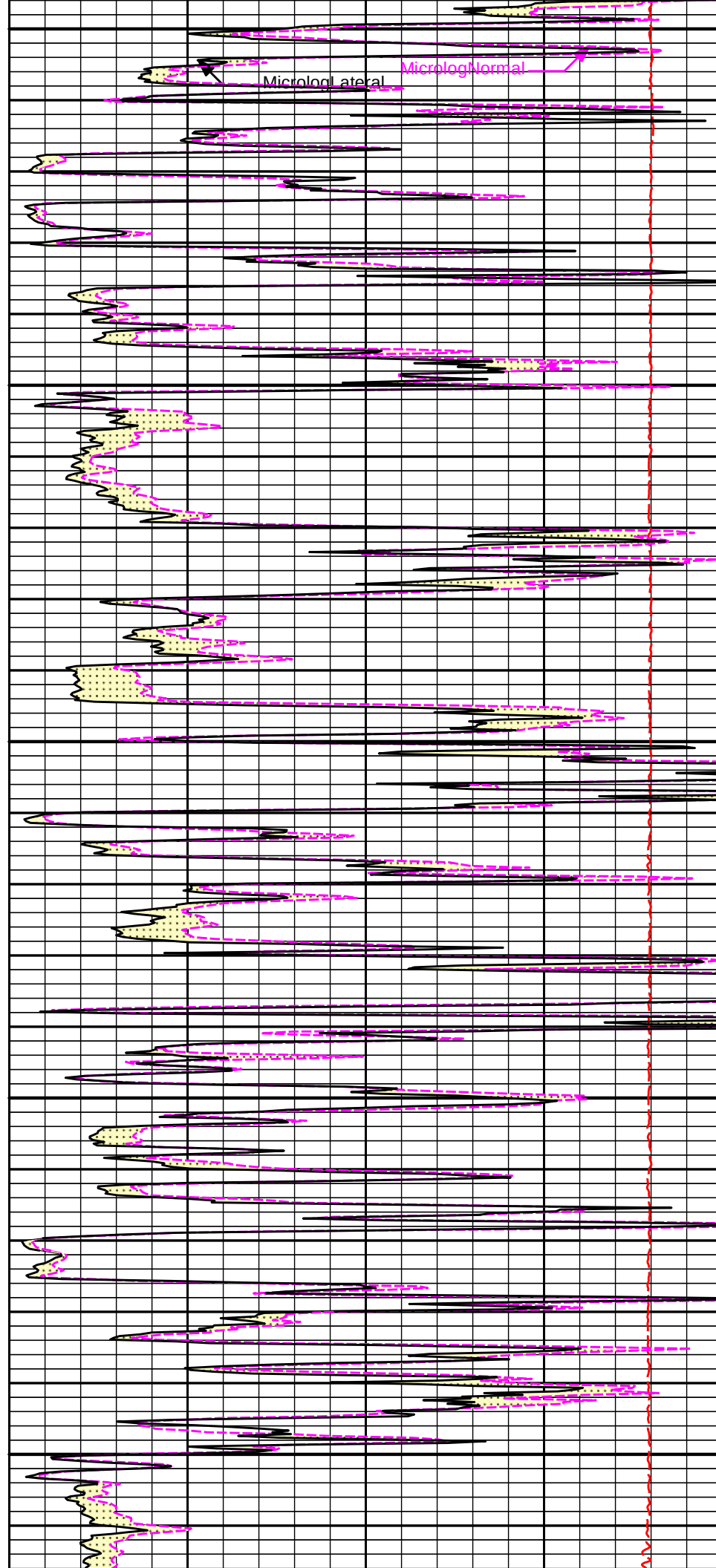


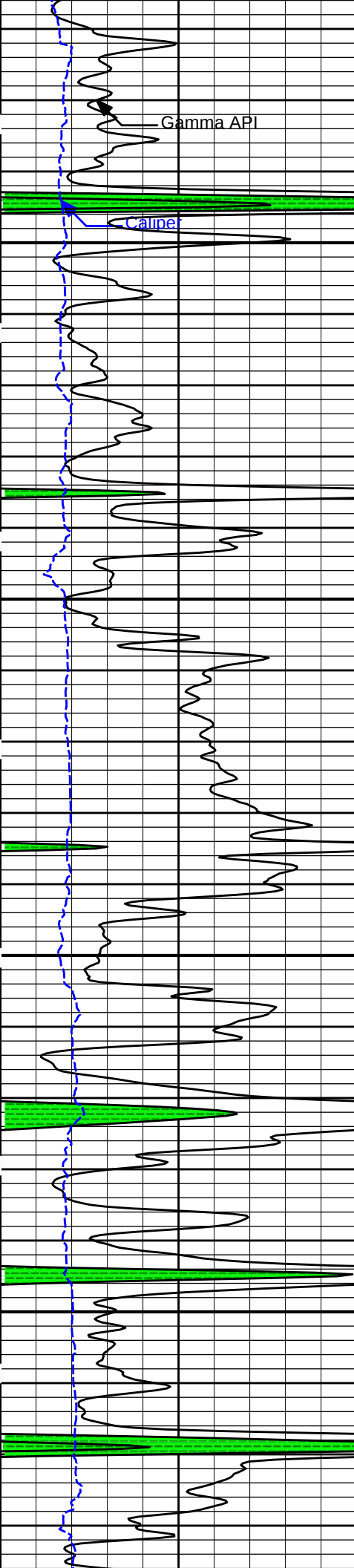


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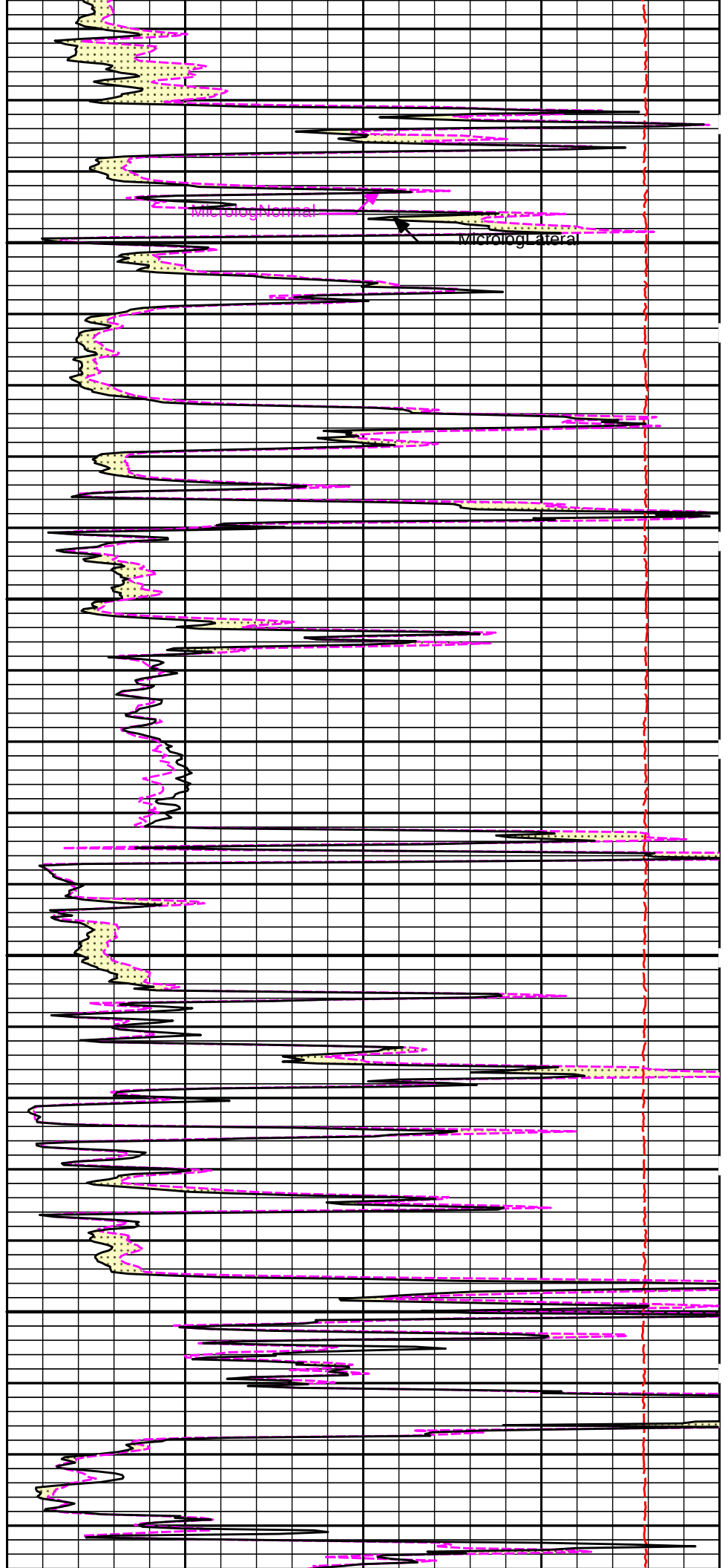
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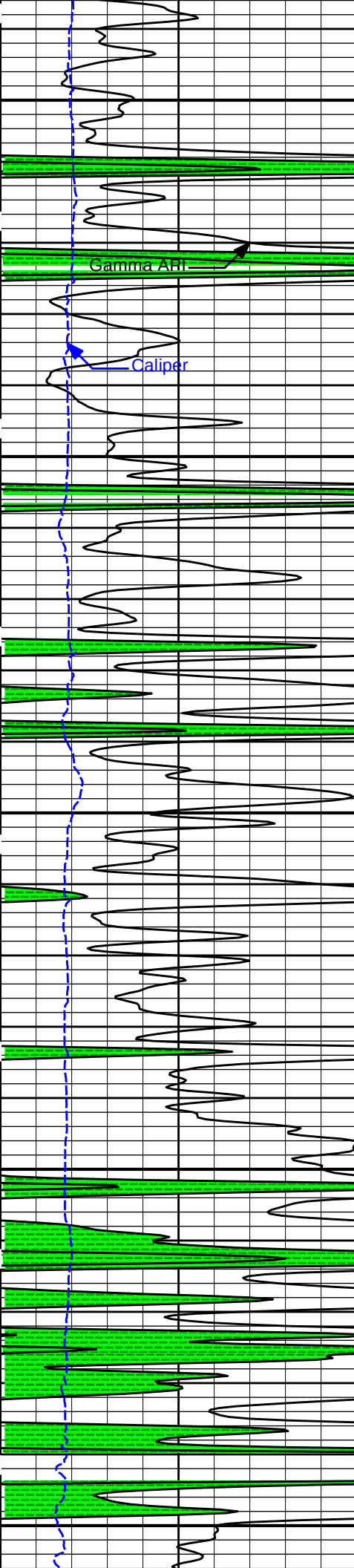




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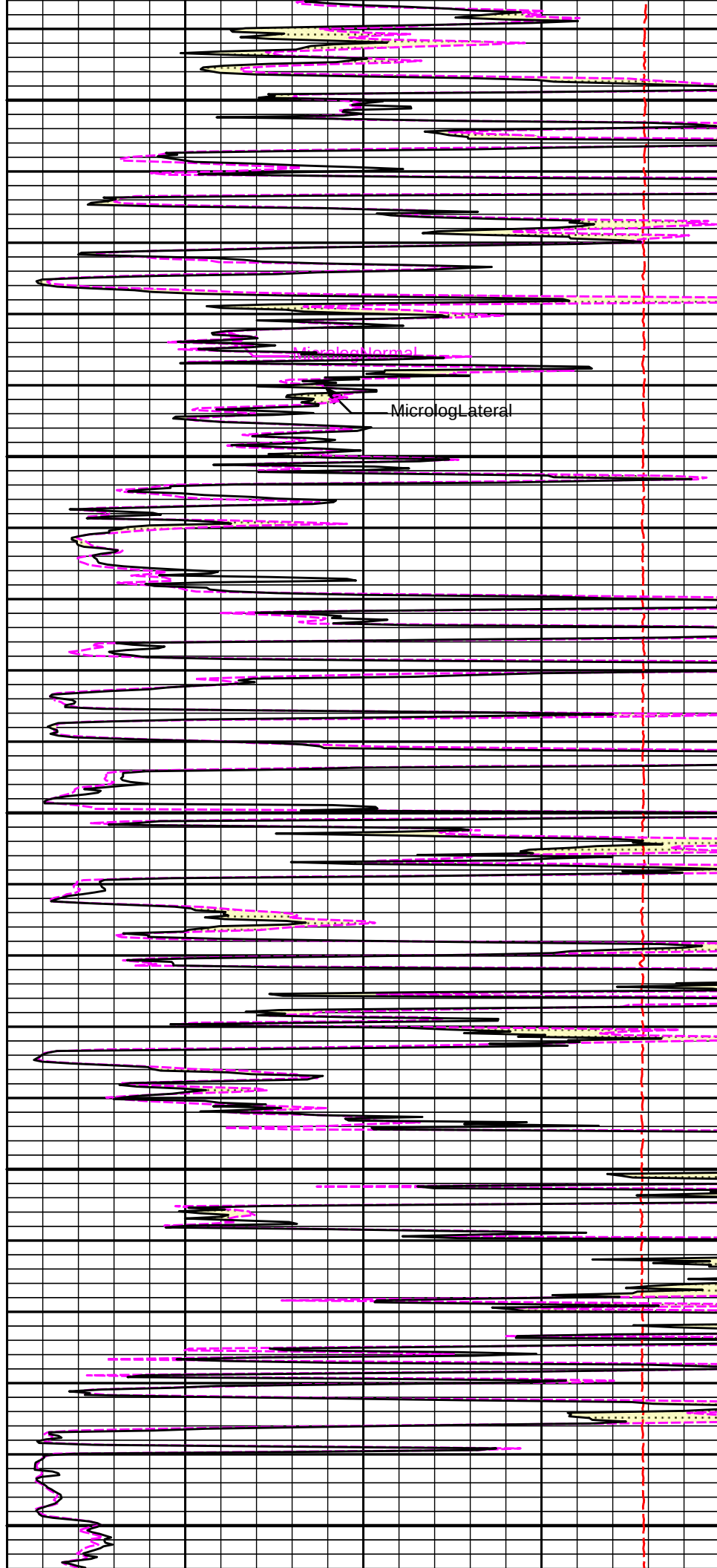
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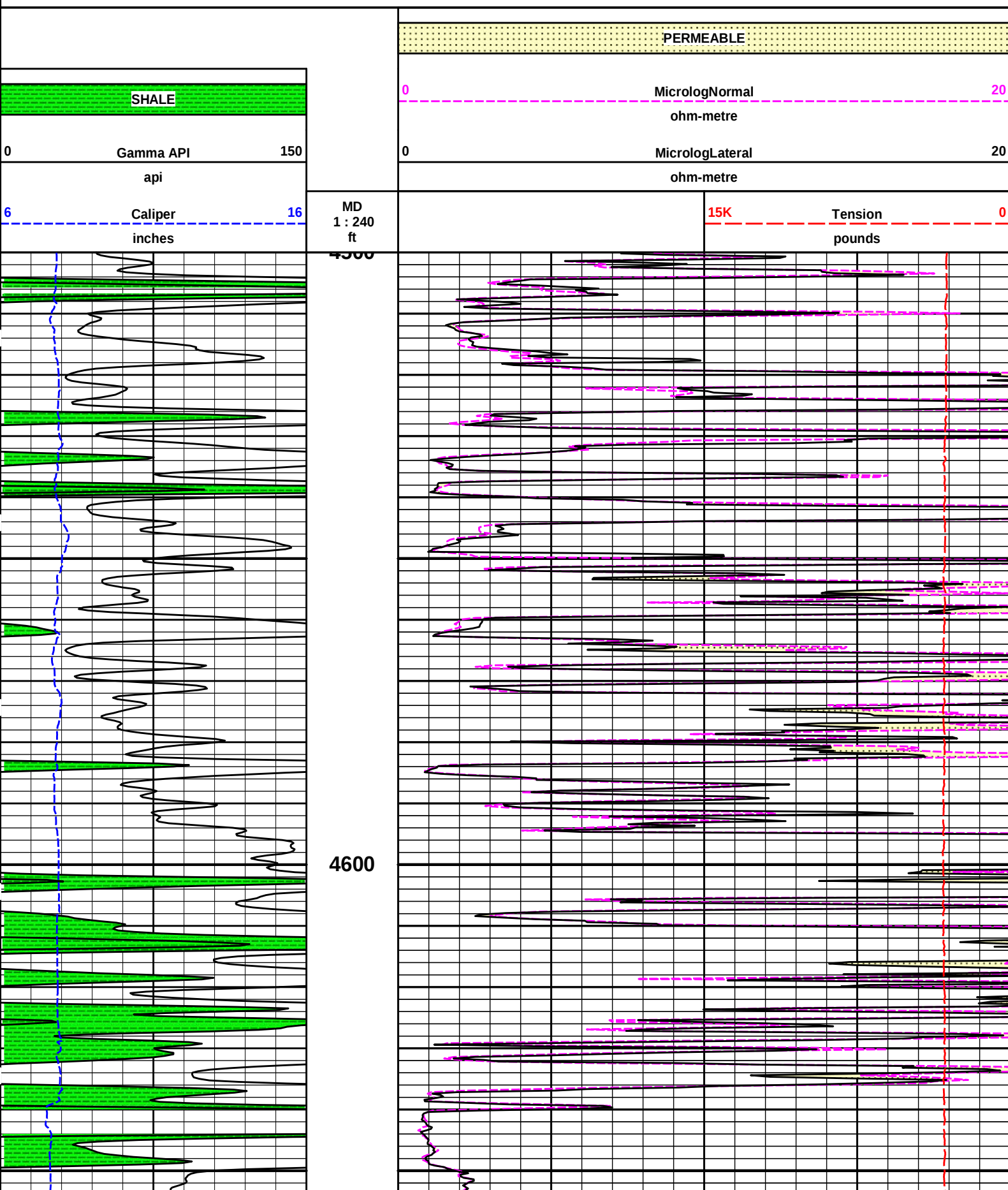


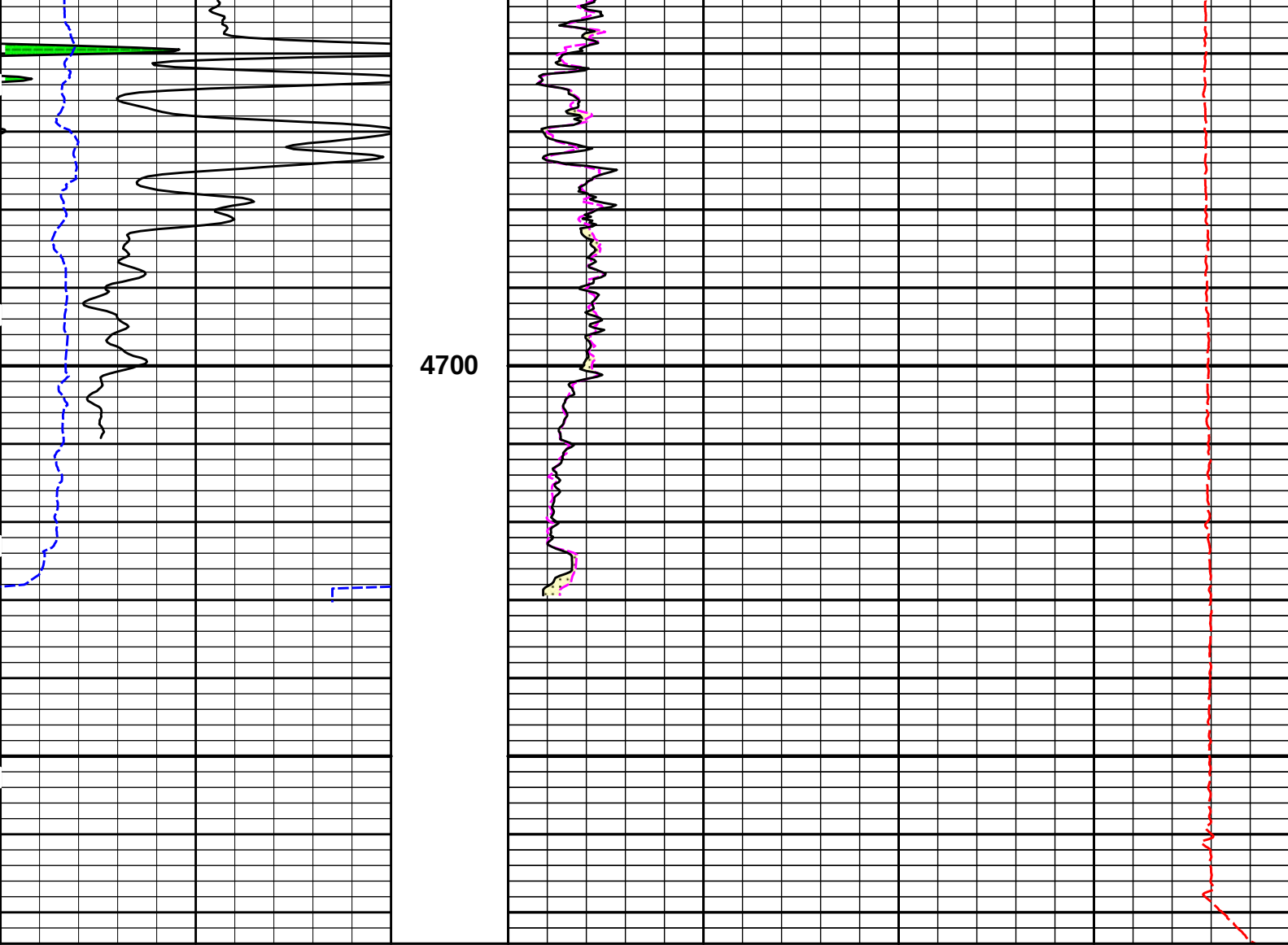
4500

4600









|   |           |     |                     |   |                 |         |        |    |
|---|-----------|-----|---------------------|---|-----------------|---------|--------|----|
| 6 | Caliper   | 16  | MD<br>1 : 240<br>ft |   | 15K             | Tension | 0      |    |
|   | inches    |     |                     |   |                 |         | pounds |    |
| 0 | Gamma API | 150 |                     | 0 | MicrologLateral |         |        | 20 |
|   | api       |     |                     |   | ohm-metre       |         |        |    |
|   | SHALE     |     |                     | 0 | MicrologNormal  |         |        | 20 |
|   |           |     |                     |   | ohm-metre       |         |        |    |
|   |           |     |                     |   | PERMEABLE       |         |        |    |

HALLIBURTON

Plot Time: 18-Aug-14 10:09:41  
Plot Range: 4500 ft to 4774 ft  
Data: ROSE\_4-1\Well Based\REPEAT\  
Plot File: \\LOCAL-ROSE\_4-1\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\MICRO\Microlog\_IQ\_5\_rep\_lib

REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

| Description | Overbody Description | O.D. | Diagram | Sensors @ Delays | Length | Accumulated Length |
|-------------|----------------------|------|---------|------------------|--------|--------------------|
|             |                      |      |         |                  |        | 80.04 ft           |

RWCH-12156658  
135.00 lbs

Ø 3.625 in →

← Load Cell @ 76.35 ft  
← BH Temperature @ 75.79 ft

6.25 ft

73.79 ft

SP Sub-12345678  
60.00 lbs

Ø 3.625 in →

← SP @ 72.01 ft

3.74 ft

70.05 ft

GTET-11048627  
165.00 lbs

Ø 3.625 in →

← GammaRay @ 63.99 ft

8.52 ft

61.53 ft

DSNT-11055304  
174.00 lbs

Ø 3.625 in →

← DSN Far @ 54.59 ft  
← DSN Near @ 53.84 ft

9.69 ft

51.84 ft

SDLT-11014296  
360.00 lbs

SDLT Pad-10865884  
65.00 lbs  
Microlog Pad-11014296  
8.00 lbs

Ø 4.500 in →

Ø 4.750 in\* →  
Ø 4.750 in\* →

← Microlog @ 44.03 ft  
← SDL Caliper @ 43.84 ft  
← SDL @ 43.83 ft

10.81 ft

41.03 ft

IQ Flex-00000001  
140.00 lbs

Ø 3.625 in →

5.67 ft

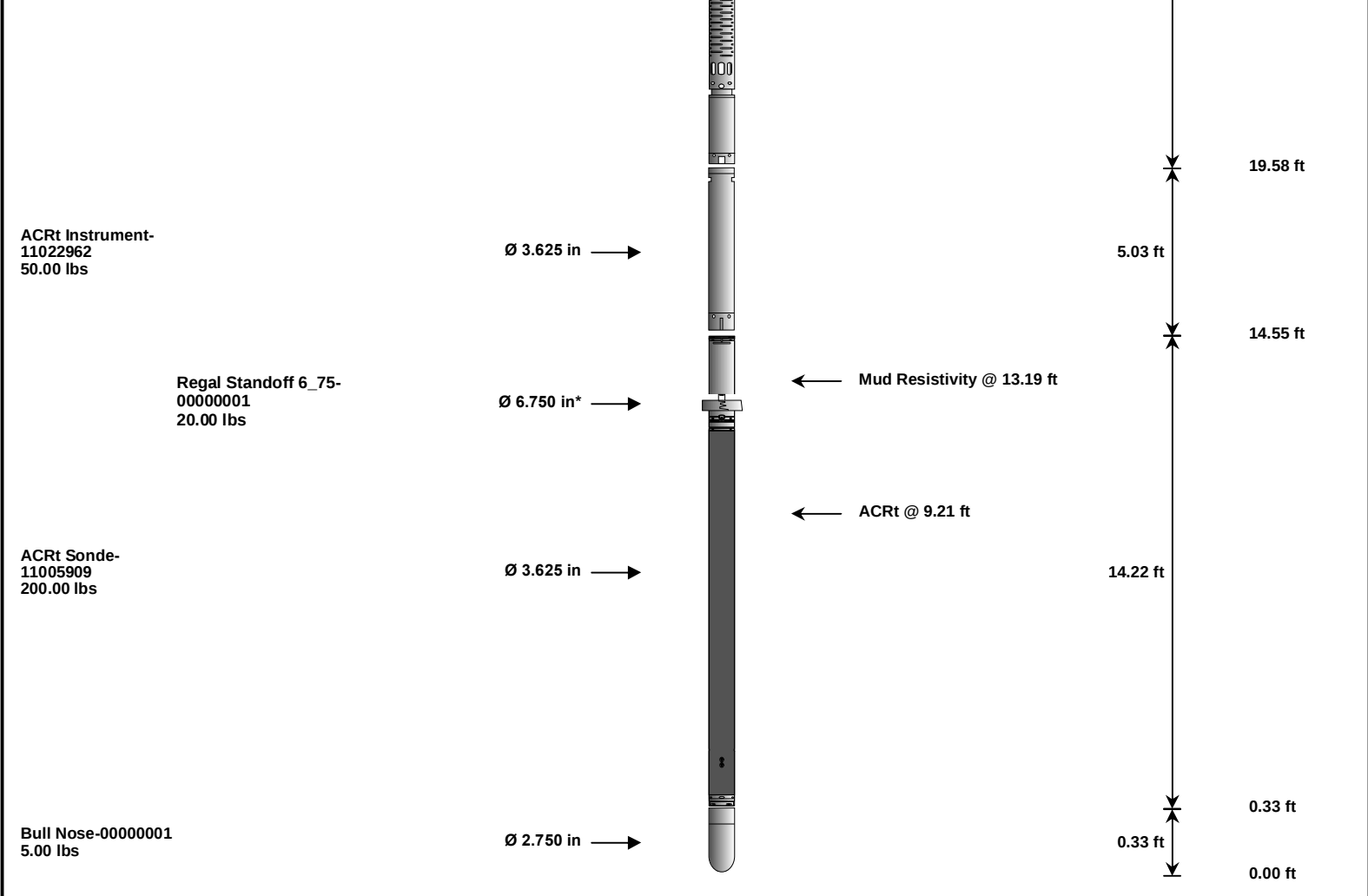
35.36 ft

BSAT-10747683  
300.00 lbs

Ø 3.625 in →

← Sonic Receivers @ 26.84 ft

15.77 ft



| Mnemonic                                                                            |                                                       | Tool Name | Serial Number | Weight (lbs) | Length (ft) | Accumulated Length (ft)  | Max.Log. Speed (fpm) |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|-----------|---------------|--------------|-------------|--------------------------|----------------------|
| RWCH                                                                                | Releasable Wireline Cable Head                        |           | 12156658      | 135.00       | 6.25        | 73.79                    | 300.00               |
| SP                                                                                  | SP Sub                                                |           | 12345678      | 60.00        | 3.74        | 70.05                    | 300.00               |
| GTET                                                                                | Gamma Telemetry Tool                                  |           | 11048627      | 165.00       | 8.52        | 61.53                    | 60.00                |
| DSNT                                                                                | Dual Spaced Neutron                                   |           | 11055304      | 174.00       | 9.69        | 51.84                    | 60.00                |
| SDLT                                                                                | Spectral Density Tool                                 |           | 11014296      | 360.00       | 10.81       | 41.03                    | 60.00                |
| SDLP                                                                                | Density Insite Pad                                    |           | 10865884      | 65.00        | 2.55        | * 43.24                  | 60.00                |
| MICP                                                                                | Microlog Pad                                          |           | 11014296      | 8.00         | 1.00        | * 43.53                  | 60.00                |
| IQF                                                                                 | IQ Flex tool                                          |           | 00000001      | 140.00       | 5.67        | 35.36                    | 300.00               |
| BSAT                                                                                | Borehole Sonic Array Tool                             |           | 10747683      | 300.00       | 15.77       | 19.58                    | 60.00                |
| ACRt                                                                                | Array Compensated True Resistivity Instrument Section |           | 11022962      | 50.00        | 5.03        | 14.55                    | 120.00               |
| ACRt                                                                                | Array Compensated True Resistivity Sonde Section      |           | 11005909      | 200.00       | 14.22       | 0.33                     | 120.00               |
| RSOF                                                                                | Regal Standoff 6.75in                                 |           | 00000001      | 20.00        | 0.52        | * 12.25                  | 300.00               |
| BLNS                                                                                | Bull Nose                                             |           | 00000001      | 5.00         | 0.33        | 0.00                     | 300.00               |
| Total                                                                               |                                                       |           |               | 1,682.00     | 80.04       |                          |                      |
| * Not included in Total Length and Length Accumulation.                             |                                                       |           |               |              |             |                          |                      |
| Data: ROSE_4-110001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN1001 18-Aug-14 08:28 Dn @-6.3f |                                                       |           |               |              |             | Date: 18-Aug-14 08:28:22 |                      |

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 09-Jul-14 10:31:38

Engineer: SUHAIL BISHTI

Calibration Date: 07-Aug-14 21:30:09

Software Version: WL INSITE R4.2.0 (Build 2)

Calibration Version: 1

Calibrator Source S/N: Error

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

| Measurement             | Measured | Calibrated | Units |
|-------------------------|----------|------------|-------|
| Background              | 53.0     | 53.5       | api   |
| Background + Calibrator | 319.9    | 323.2      | api   |
| Calibrator              | 266.9    | 269.6      | api   |

### NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 11048627

Reference Calibration Date: 07-Aug-14 21:30:09

Engineer: J. BOLLUM

Calibration Date: 18-Aug-14 08:10:26

Software Version: WL INSITE R4.2.0 (Build 2)

Calibration Version: 1

Calibrator Source S/N: Error

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

| Field Verification      | Shop  | Field | Units |
|-------------------------|-------|-------|-------|
| Background              | 53.5  | 45.2  | api   |
| Background + Calibrator | 323.2 | 313.9 | api   |
| Calibrator              | 269.6 | 268.7 | api   |

| Shop  | Field | Difference | Tolerance |
|-------|-------|------------|-----------|
| 269.6 | 268.7 | 0.9        | +/- 9.00  |

### MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - 11014296

Reference Calibration Date: 07-Aug-14 21:52:17

Engineer: J. BOLLUM

Calibration Date: 13-Aug-14 11:26:23

Software Version: WL INSITE R4.2.0 (Build 2)

Calibration Version: 1

Host Tool Name: DSNT - 11055304

### CALIBRATION COEFFICIENT SUMMARY

| Measurement          | Micro Log Normal |            | Micro Log Lateral |            | Units |
|----------------------|------------------|------------|-------------------|------------|-------|
|                      | Measured         | Calibrated | Measured          | Calibrated |       |
| Tool Zero            | -0.06            | -0.05      | -0.01             | -0.01      | ohmm  |
| Calibration Point #1 | -0.02            | 0.00       | -0.01             | 0.00       | ohmm  |
| Calibration Point #2 | 19.93            | 20.00      | 19.93             | 20.00      | ohmm  |
| Internal Reference   | 19.90            | 19.97      | 19.94             | 20.01      | ohmm  |

| Measurement          | Micro Log Normal<br>Tool Value | Micro Log Lateral<br>Tool Value | Units |
|----------------------|--------------------------------|---------------------------------|-------|
| Tool Zero            | -0.02                          | 0.11                            | V     |
| Calibration Point #1 | 12.88                          | 2.19                            | V     |
| Calibration Point #2 | 5288.52                        | 6872.84                         | V     |
| Internal Reference   | 5279.58                        | 6875.93                         | V     |

### MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - 11014296

Reference Calibration Date: 13-Aug-14 11:26:23

Engineer: J. BOLLUM

Calibration Date: 18-Aug-14 08:08:18

Software Version: WL INSITE R4.2.0 (Build 2)

Calibration Version: 1

| Measurement        | Micro Log Normal |       | Micro Log Lateral |       | Units |
|--------------------|------------------|-------|-------------------|-------|-------|
|                    | Shop             | Field | Shop              | Field |       |
| Tool Zero          | -0.05            | -0.05 | -0.01             | -0.00 | ohmm  |
| Internal Reference | 19.97            | 19.95 | 20.01             | 19.99 | ohmm  |

| Summary                                                                             |       |       |            |            |                          |       |
|-------------------------------------------------------------------------------------|-------|-------|------------|------------|--------------------------|-------|
| Signal                                                                              | Shop  | Field | Difference | Tolerance  |                          |       |
| Microlog Normal                                                                     | 19.97 | 19.95 | 0.02       | +/- 0.80   |                          |       |
| Microlog Lateral                                                                    | 20.01 | 19.99 | 0.02       | +/- 0.80   |                          |       |
| CALIBRATION SUMMARY                                                                 |       |       |            |            |                          |       |
| Sensor                                                                              | Shop  | Field | Post       | Difference | Tolerance                | Units |
| GTET-11048627                                                                       |       |       |            |            |                          |       |
| Gamma Ray Calibrator                                                                | 269.6 | 268.7 | -----      | 0.9        | +/- 9.00                 | api   |
| Microlog Pad-11014296                                                               |       |       |            |            |                          |       |
| MicroLog Normal                                                                     | 19.97 | 19.95 | -----      | 0.02       | +/-0.80                  | ohmm  |
| MicroLog Lateral                                                                    | 20.01 | 19.99 | -----      | 0.02       | +/-0.80                  | ohmm  |
| Data: ROSE_4-1\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\001 18-Aug-14 08:28 Dn @-6.3f |       |       |            |            | Date: 18-Aug-14 08:29:53 |       |

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PARAMETERS REPORT

| Depth<br>(ft) | Tool Name       | Mnemonic | Description                                           | Value     | Units |
|---------------|-----------------|----------|-------------------------------------------------------|-----------|-------|
| TOP           |                 |          |                                                       |           |       |
|               | SHARED          | BS       | Bit Size                                              | 7.875     | in    |
|               | SHARED          | UBS      | Use Bit Size instead of Caliper for all applications. | No        |       |
|               | SHARED          | MDBS     | Mud Base                                              | Water     |       |
|               | SHARED          | MDWT     | Borehole Fluid Weight                                 | 9.400     | ppg   |
|               | SHARED          | WAGT     | Weighting Agent                                       | Natural   |       |
|               | SHARED          | BSAL     | Borehole salinity                                     | 0.00      | ppm   |
|               | SHARED          | FSAL     | Formation Salinity NaCl                               | 0.00      | ppm   |
|               | SHARED          | KPCT     | Percent K in Mud by Weight?                           | 0.00      | %     |
|               | SHARED          | RMUD     | Mud Resistivity                                       | 2.000     | ohmm  |
|               | SHARED          | TRM      | Temperature of Mud                                    | 75.0      | degF  |
|               | SHARED          | CSD      | Logging Interval is Cased?                            | No        |       |
|               | SHARED          | ICOD     | AHV Casing OD                                         | 5.500     | in    |
|               | SHARED          | ST       | Surface Temperature                                   | 75.0      | degF  |
|               | SHARED          | TD       | Total Well Depth                                      | 4770.00   | ft    |
|               | SHARED          | BHT      | Bottom Hole Temperature                               | 200.0     | degF  |
|               | SHARED          | SVTM     | Navigation and Survey Master Tool                     | NONE      |       |
|               | SHARED          | AZTM     | High Res Z Accelerometer Master Tool                  | GTET      |       |
|               | SHARED          | TEMM     | Temperature Master Tool                               | NONE      |       |
|               | Rwa / CrossPlot | XPOK     | Process Crossplot?                                    | Yes       |       |
|               | Rwa / CrossPlot | FCHO     | Select Source of F                                    | Automatic |       |
|               | Rwa / CrossPlot | AFAC     | Archie A factor                                       | 0.6200    |       |
|               | Rwa / CrossPlot | MFAC     | Archie M factor                                       | 2.1500    |       |
|               | Rwa / CrossPlot | RMFR     | Rmf Reference                                         | 0.10      | ohmm  |
|               | Rwa / CrossPlot | TMFR     | Rmf Ref Temp                                          | 75.00     | degF  |
|               | Rwa / CrossPlot | RWA      | Resistivity of Formation Water                        | 0.05      | ohmm  |
|               | Rwa / CrossPlot | ADP      | Use Air Porosity to calculate CrossplotPhi            | No        |       |
|               | Rwa / CrossPlot | BHSM     | Borehole Size Source Tool                             | SDLT      |       |
|               | GTET            | GROK     | Process Gamma Ray?                                    | Yes       |       |

|                                                                                     |      |                                              |                 |                          |
|-------------------------------------------------------------------------------------|------|----------------------------------------------|-----------------|--------------------------|
| GTET                                                                                | GRSO | Gamma Tool Standoff                          | 0.000           | in                       |
| GTET                                                                                | GEOK | Process Gamma Ray EVR?                       | Yes             |                          |
| GTET                                                                                | TPOS | Tool Position for Gamma Ray Tools.           | Eccentered      |                          |
| GTET                                                                                | BHSM | Borehole Size Source Tool                    | SDLT            |                          |
| DSNT                                                                                | DNOK | Process DSN?                                 | Yes             |                          |
| DSNT                                                                                | DEOK | Process DSN EVR?                             | Yes             |                          |
| DSNT                                                                                | NLIT | Neutron Lithology                            | Limestone       |                          |
| DSNT                                                                                | DSNO | DSN Standoff - 0.25 in (6.35 mm) Recommended | 0.250           | in                       |
| DSNT                                                                                | DNTP | Temperature Correction Type                  | None            |                          |
| DSNT                                                                                | DPRS | DSN Pressure Correction Type                 | None            |                          |
| DSNT                                                                                | SHCO | View More Correction Options                 | No              |                          |
| DSNT                                                                                | UTVD | Use TVD for Gradient Corrections?            | No              |                          |
| DSNT                                                                                | LHWT | Logging Horizontal Water Tank?               | No              |                          |
| DSNT                                                                                | BHSM | Borehole Size Source Tool                    | SDLT            |                          |
| SDLT                                                                                | CLOK | Process Caliper Outputs?                     | Yes             |                          |
| SDLT Pad                                                                            | DNOK | Process Density?                             | Yes             |                          |
| SDLT Pad                                                                            | DNOK | Process Density EVR?                         | Yes             |                          |
| SDLT Pad                                                                            | CB   | Logging Calibration Blocks?                  | No              |                          |
| SDLT Pad                                                                            | SPVT | SDLT Pad Temperature Valid?                  | Yes             |                          |
| SDLT Pad                                                                            | DTWN | Disable temperature warning                  | No              |                          |
| SDLT Pad                                                                            | DMA  | Formation Density Matrix                     | 2.710           | g/cc                     |
| SDLT Pad                                                                            | DFL  | Formation Density Fluid                      | 1.000           | g/cc                     |
| SDLT Pad                                                                            | BHSM | Borehole Size Source Tool                    | SDLT            |                          |
| Microlog Pad                                                                        | MLOK | Process MicroLog Outputs?                    | Yes             |                          |
| BSAT                                                                                | MBOK | Compute BCAS Results?                        | Yes             |                          |
| BSAT                                                                                | FLLO | Frequency Filter Low Pass Value?             | 5000            | Hz                       |
| BSAT                                                                                | FLHI | Frequency Filter High Pass Value?            | 27000           | Hz                       |
| BSAT                                                                                | DTFL | Delta -T Fluid                               | 189.00          | uspf                     |
| BSAT                                                                                | DTMT | Delta -T Matrix Type                         | User define     |                          |
| BSAT                                                                                | DTMA | Delta -T Matrix                              | 47.60           | uspf                     |
| BSAT                                                                                | DTSH | Delta -T Shale                               | 100.00          | uspf                     |
| BSAT                                                                                | SPEQ | Acoustic Porosity Equation                   | Wylie           |                          |
| ACRt Sonde                                                                          | RTOK | Process ACRt?                                | Yes             |                          |
| ACRt Sonde                                                                          | MNSO | Minimum Tool Standoff                        | 1.50            | in                       |
| ACRt Sonde                                                                          | TCS1 | Temperature Correction Source                | FP Lwr & FP Upr |                          |
| ACRt Sonde                                                                          | TPOS | Tool Position                                | Free Hanging    |                          |
| ACRt Sonde                                                                          | RMOP | Rmud Source                                  | Mud Cell        |                          |
| ACRt Sonde                                                                          | RMIN | Minimum Resistivity for MAP                  | 0.20            | ohmm                     |
| ACRt Sonde                                                                          | RMIN | Maximum Resistivity for MAP                  | 200.00          | ohmm                     |
| ACRt Sonde                                                                          | THQY | Threshold Quality                            | 0.50            |                          |
| ACRt Sonde                                                                          | MRFX | Fixed mud resistivity                        | 2000            | ohmm                     |
| ACRt Sonde                                                                          | BHSM | Borehole Size Source Tool                    | SDLT            |                          |
| BOTTOM                                                                              |      |                                              |                 |                          |
| Data: ROSE_4-110001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN1001 18-Aug-14 08:28 Dn @-6.3f |      |                                              |                 | Date: 18-Aug-14 08:28:48 |

| <div>HALLIBURTON</div> <div>INPUTS, DELAYS AND FILTERS TABLE</div> |                   |            |             |                    |
|--------------------------------------------------------------------|-------------------|------------|-------------|--------------------|
| Mnemonic                                                           | Input Description | Delay (ft) | Filter Type | Filter Length (ft) |
| Depth Panel                                                        |                   |            |             |                    |
| TENS                                                               | Tension           | 0.00       | NO          |                    |

| Rwa / CrossPlot |                                                         |       |     |               |
|-----------------|---------------------------------------------------------|-------|-----|---------------|
| TPUL            | Tension Pull                                            | 80.04 | NO  |               |
| BS              | Bit Size                                                | 80.04 | NO  |               |
| HDIA            | Measured Hole Diameter                                  | 0.00  | NO  |               |
| RWCH            |                                                         |       |     |               |
| DHTN            | DownholeTension                                         | 0.00  | BLK | 0.000         |
| SP Sub          |                                                         |       |     |               |
| PLTC            | Plot Control Mask                                       | 72.01 | NO  |               |
| SP              | Spontaneous Potential                                   | 72.01 | BLK | 1.250         |
| SPR             | Raw Spontaneous Potential                               | 72.01 | NO  |               |
| SPO             | Spontaneous Potential Offset                            | 72.01 | NO  |               |
| GTET            |                                                         |       |     |               |
| TPUL            | Tension Pull                                            | 63.99 | NO  |               |
| GR              | Natural Gamma Ray API                                   | 63.99 | TRI | 1.750         |
| GRU             | Unfiltered Natural Gamma Ray API                        | 63.99 | NO  |               |
| EGR             | Natural Gamma Ray API with Enhanced Vertical Resolution | 63.99 | W   | 1.416 , 0.750 |
| HDIA            | Measured Hole Diameter                                  | 0.00  | NO  |               |
| ACCZ            | Accelerometer Z                                         | 0.00  | BLK | 0.083         |
| DEVI            | Inclination                                             | 0.00  | NO  |               |
| DSNT            |                                                         |       |     |               |
| TPUL            | Tension Pull                                            | 53.74 | NO  |               |
| RNDS            | Near Detector Telemetry Counts                          | 53.84 | BLK | 1.417         |
| RFDS            | Far Detector Telemetry Counts                           | 54.59 | TRI | 0.583         |
| DNTT            | DSN Tool Temperature                                    | 53.84 | NO  |               |
| DSNS            | DSN Tool Status                                         | 53.74 | NO  |               |
| ERND            | Near Detector Telemetry Counts EVR                      | 53.84 | BLK | 0.000         |
| ERFD            | Far Detector Telemetry Counts EVR                       | 54.59 | BLK | 0.000         |
| ENTM            | DSN Tool Temperature EVR                                | 53.84 | NO  |               |
| HDIA            | Measured Hole Diameter                                  | 0.00  | NO  |               |
| SDLT            |                                                         |       |     |               |
| TPUL            | Tension Pull                                            | 43.84 | NO  |               |
| PCAL            | Pad Caliper                                             | 43.84 | TRI | 0.250         |
| ACAL            | Arm Caliper                                             | 43.84 | TRI | 0.250         |
| BSAT            |                                                         |       |     |               |
| TPUL            | Tension Pull                                            | 26.84 | NO  |               |
| STAT            | Status                                                  | 26.84 | NO  |               |
| DLYT            | Delay Time                                              | 26.84 | NO  |               |
| SI              | Sample Interval                                         | 26.84 | NO  |               |
| TXRX            | Raw Telemetry 10 Receivers                              | 26.84 | NO  |               |
| FRMC            | Tool Frame Count                                        | 26.84 | NO  |               |
| GMOD            | Gain processing mode                                    | 19.58 | NO  |               |
| ACRt Sonde      |                                                         |       |     |               |
| TPUL            | Tension Pull                                            | 2.73  | NO  |               |
| F1R1            | ACRT 12KHz - 80in R value                               | 8.98  | BLK | 0.000         |
| F1X1            | ACRT 12KHz - 80in X value                               | 8.98  | BLK | 0.000         |
| F1R2            | ACRT 12KHz - 50in R value                               | 6.48  | BLK | 0.000         |
| F1X2            | ACRT 12KHz - 50in X value                               | 6.48  | BLK | 0.000         |
| F1R3            | ACRT 12KHz - 29in R value                               | 4.98  | BLK | 0.000         |
| F1X3            | ACRT 12KHz - 29in X value                               | 4.98  | BLK | 0.000         |

|          |                                               |       |     |       |
|----------|-----------------------------------------------|-------|-----|-------|
| F1R4     | ACRT 12KHz - 17in R value                     | 3.98  | BLK | 0.000 |
| F1X4     | ACRT 12KHz - 17in X value                     | 3.98  | BLK | 0.000 |
| F1R5     | ACRT 12KHz - 10in R value                     | 3.48  | BLK | 0.000 |
| F1X5     | ACRT 12KHz - 10in X value                     | 3.48  | BLK | 0.000 |
| F1R6     | ACRT 12KHz - 6in R value                      | 3.23  | BLK | 0.000 |
| F1X6     | ACRT 12KHz - 6in X value                      | 3.23  | BLK | 0.000 |
| F2R1     | ACRT 36KHz - 80in R value                     | 8.98  | BLK | 0.000 |
| F2X1     | ACRT 36KHz - 80in X value                     | 8.98  | BLK | 0.000 |
| F2R2     | ACRT 36KHz - 50in R value                     | 6.48  | BLK | 0.000 |
| F2X2     | ACRT 36KHz - 50in X value                     | 6.48  | BLK | 0.000 |
| F2R3     | ACRT 36KHz - 29in R value                     | 4.98  | BLK | 0.000 |
| F2X3     | ACRT 36KHz - 29in X value                     | 4.98  | BLK | 0.000 |
| F2R4     | ACRT 36KHz - 17in R value                     | 3.98  | BLK | 0.000 |
| F2X4     | ACRT 36KHz - 17in X value                     | 3.98  | BLK | 0.000 |
| F2R5     | ACRT 36KHz - 10in R value                     | 3.48  | BLK | 0.000 |
| F2X5     | ACRT 36KHz - 10in X value                     | 3.48  | BLK | 0.000 |
| F2R6     | ACRT 36KHz - 6in R value                      | 3.23  | BLK | 0.000 |
| F2X6     | ACRT 36KHz - 6in X value                      | 3.23  | BLK | 0.000 |
| F3R1     | ACRT 72KHz - 80in R value                     | 8.98  | BLK | 0.000 |
| F3X1     | ACRT 72KHz - 80in X value                     | 8.98  | BLK | 0.000 |
| F3R2     | ACRT 72KHz - 50in R value                     | 6.48  | BLK | 0.000 |
| F3X2     | ACRT 72KHz - 50in X value                     | 6.48  | BLK | 0.000 |
| F3R3     | ACRT 72KHz - 29in R value                     | 4.98  | BLK | 0.000 |
| F3X3     | ACRT 72KHz - 29in X value                     | 4.98  | BLK | 0.000 |
| F3R4     | ACRT 72KHz - 17in R value                     | 3.98  | BLK | 0.000 |
| F3X4     | ACRT 72KHz - 17in X value                     | 3.98  | BLK | 0.000 |
| F3R5     | ACRT 72KHz - 10in R value                     | 3.48  | BLK | 0.000 |
| F3X5     | ACRT 72KHz - 10in X value                     | 3.48  | BLK | 0.000 |
| F3R6     | ACRT 72KHz - 6in R value                      | 3.23  | BLK | 0.000 |
| F3X6     | ACRT 72KHz - 6in X value                      | 3.23  | BLK | 0.000 |
| RMUD     | Mud Resistivity                               | 12.52 | BLK | 0.000 |
| F1RT     | Transmitter Reference 12 KHz Real Signal      | 2.73  | BLK | 0.000 |
| F1XT     | Transmitter Reference 12 KHz Imaginary Signal | 2.73  | BLK | 0.000 |
| F2RT     | Transmitter Reference 36 KHz Real Signal      | 2.73  | BLK | 0.000 |
| F2XT     | Transmitter Reference 36 KHz Imaginary Signal | 2.73  | BLK | 0.000 |
| F3RT     | Transmitter Reference 72 KHz Real Signal      | 2.73  | BLK | 0.000 |
| F3XT     | Transmitter Reference 72 KHz Imaginary Signal | 2.73  | BLK | 0.000 |
| TFPU     | Upper Feedpipe Temperature Calculated         | 2.73  | BLK | 0.000 |
| TFPL     | Lower Feedpipe Temperature Calculated         | 2.73  | BLK | 0.000 |
| ITMP     | Instrument Temperature                        | 2.73  | BLK | 0.000 |
| TCVA     | Temperature Correction Values Loop Off        | 2.73  | NO  |       |
| TIDV     | Instrument Temperature Derivative             | 2.73  | NO  |       |
| TUDV     | Upper Temperature Derivative                  | 2.73  | NO  |       |
| TLDV     | Lower Temperature Derivative                  | 2.73  | NO  |       |
| TRBD     | Receiver Board Temperature                    | 2.73  | NO  |       |
| HDIA     | Measured Hole Diameter                        | 0.00  | NO  |       |
| SDLT Pad |                                               |       |     |       |
| TPUL     | Tension Pull                                  | 43.83 | NO  |       |
| NAB      | Near Above                                    | 43.66 | BLK | 0.920 |
| NHI      | Near Cesium High                              | 43.66 | BLK | 0.920 |
| NLO      | Near Cesium Low                               | 43.66 | BLK | 0.920 |
| NVA      | Near Valley                                   | 43.66 | BLK | 0.920 |
| NBA      | Near Barite                                   | 43.66 | BLK | 0.920 |
| NDE      | Near Density                                  | 43.66 | BLK | 0.920 |
| NBK      | Near Back                                     | 43.66 | BLK | 0.920 |

|      |                            |       |     |       |
|------|----------------------------|-------|-----|-------|
| NPK  | Near Peak                  | 43.66 | BLK | 0.920 |
| NLI  | Near Lithology             | 43.66 | BLK | 0.920 |
| NBAU | Near Barite Unfiltered     | 43.66 | BLK | 0.250 |
| NLIU | Near Lithology Unfiltered  | 43.66 | BLK | 0.250 |
| FAB  | Far Above                  | 44.01 | BLK | 0.250 |
| FHI  | Far Cesium High            | 44.01 | BLK | 0.250 |
| FLO  | Far Cesium Low             | 44.01 | BLK | 0.250 |
| FVA  | Far Valley                 | 44.01 | BLK | 0.250 |
| FBA  | Far Barite                 | 44.01 | BLK | 0.250 |
| FDE  | Far Density                | 44.01 | BLK | 0.250 |
| FPK  | Far Peak                   | 44.01 | BLK | 0.250 |
| FLI  | Far Lithology              | 44.01 | BLK | 0.250 |
| PTMP | Pad Temperature            | 43.84 | BLK | 0.920 |
| NHV  | Near Detector High Voltage | 43.24 | NO  |       |
| FHV  | Far Detector High Voltage  | 43.24 | NO  |       |
| ITMP | Instrument Temperature     | 43.24 | NO  |       |
| DDHV | Detector High Voltage      | 43.24 | NO  |       |
| HDIA | Measured Hole Diameter     | 0.00  | NO  |       |

| Microlog Pad                                                                        |                  |       |                          |       |
|-------------------------------------------------------------------------------------|------------------|-------|--------------------------|-------|
| TPUL                                                                                | Tension Pull     | 44.03 | NO                       |       |
| MINV                                                                                | Microlog Lateral | 44.03 | BLK                      | 0.750 |
| MNOR                                                                                | Microlog Normal  | 44.03 | BLK                      | 0.750 |
| Data: ROSE_4-1\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\001 18-Aug-14 08:28 Dn @-6.3f |                  |       | Date: 18-Aug-14 08:28:55 |       |

|             |                       |          |        |
|-------------|-----------------------|----------|--------|
| COMPANY     | HARTMAN OIL CO., INC. |          |        |
| WELL        | ROSE 4-1              |          |        |
| FIELD       | AMERICAN BEAUTY       |          |        |
| COUNTY      | WICHITA               | STATE    | KANSAS |
| HALLIBURTON |                       | MICROLOG |        |